Forest Management Agreements

Fourth Five-Year Review 1983-1988

October 1989

Ontario
Ministry of Natural Resources
Lyn McLeod
Minister

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INTRODUCTION

Forest Management Agreements (FMAs) came into being in Ontario through an amendment to the Crown Timber Act in 1979. The Act as amended provided that the Minister of Natural Resources, subject to the approval of the Lieutenant-Governor-in-Council, could enter into Forest Management Agreements with private sector companies.

The FMAs, which cover a specific section of Crown land, replace existing licensing arrangements with an Agreement which requires the companies to manage the forests in the FMA area on a sustained-yield basis. In addition to harvesting, the FMA holder is responsible for all planning, regeneration and other silvicultural activities necessary for proper forest management, including the construction of access roads.

The Ministry of Natural Resources provides certain funding, and must approve the required management documents submitted by the companies. The Agreements are for 20 years, but Section 15 provides that every five years, the Minister must evaluate how the company has carried out its obligations under the Agreement and the associated management documents. If satisfactory, the FMA is renewed for another five years. This is called an "evergreen" arrangement.

In 1985, the Minister released the first five-year reviews of the first five FMAs in the province. A report on the relationship between harvest and growth, including regeneration, of timber for the five FMA areas was tabled in the Ontario Legislature, as required by legislation. All five FMAs were renewed for another five-year term.

In 1986, the Minister released the second five-year review. A report on the relationship between harvest and growth, including regeneration, was tabled in the Ontario Legislature, as required by legislation. The Abitibi-Price Inc. Spruce River Forest FMA and the Domtar Forest Products Lake Nipigon Forest FMA were extended for another five-year term. The Great West Timber Black River Forest FMA was not initially extended but has since been extended for another five-year term.

In 1988, the Minister released the third five-year review for FMAs covering the period from 1982 to 1987. A report on the relationship between harvest and growth, including regeneration, for the five FMAs was tabled in the Ontario Legislature, as required by legislation. All five were recommended for extension for another five-year term.

As of January 1989, there were 30 FMAs in the province, covering a total of 177,821 square kilometres. This is 69 per cent of the 257,244 square kilometres of licensed forest in the province. The location of these Agreements is shown on the following page.

In 1988, the five-year reviews on four more FMAs were conducted and are the subject of this report. The Agreements are:

1. Domtar Inc., White River Forest
   - FMA 501500

2. Quebec and Ontario Paper Company Limited, Cochrane Forest
   - FMA 501600

3. Quebec and Ontario Paper Company Limited, Gardiner Forest
   - FMA 501700

4. Quebec and Ontario Paper Company Limited, Timmins Forest
   - FMA 501800

This report summarizes the various forest operations carried out by the five companies and presents the recommendations of the committee which conducted the reviews. The role of the review committee was to assess the commitment of the companies to their obligations as identified in the Agreements.

The obligations are:

a) Submission dates for management and operating plans, annual work schedules and reports are to be established and met;
b) harvest: may not exceed the Maximum Allowable Depletion (the annual allowable cut) and companies may be liable for damages following the fifth year if their planned requirements are not harvested;
c) obligations for treatment of Not Satisfactorily Regenerated (NSR) lands are to be met;
d) compliance with ground rules which indicate the silvicultural treatments on a site-specific basis;
e) road construction;
f) compliance with other forest users.

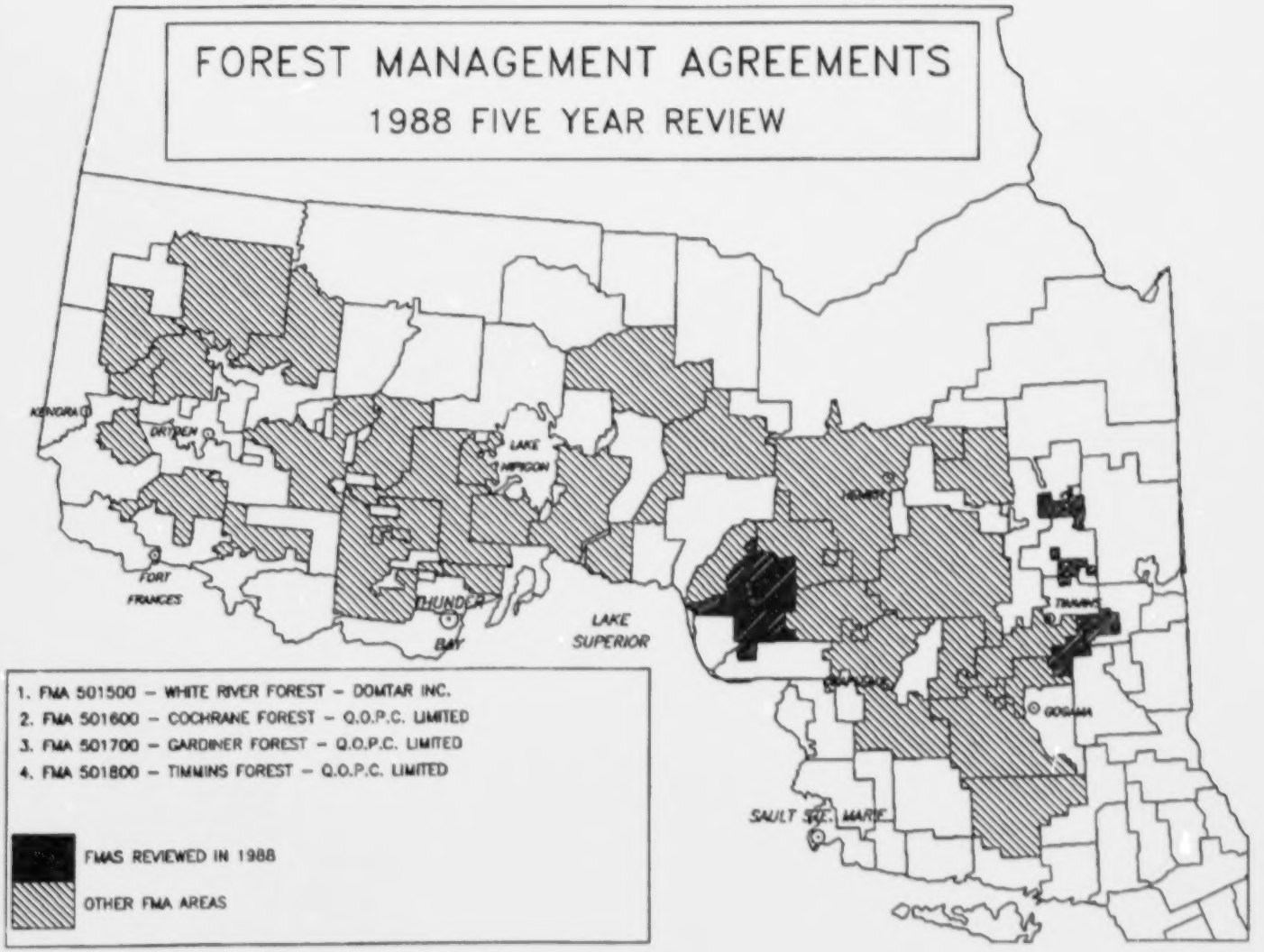
The review committee was comprised of three independent auditors including retired industry and government members and a representative from the academic field. The committee assessed the commitment of the Companies to their FMA obligations, reviewed written records and conducted field inspections to assess company performance.

Activities on the FMA areas during the five-year periods prior to and after the agreements were signed are compared in Table 1. It shows that while the actual harvest increased 23%, regeneration increased 141%, tending increased 179% and site preparation increased by 170%.

TABLE 1

Relationship between harvest and silviculture activities on FMAs 501500 through 501800, for a five-year period before and after entering into Agreements.

Activity	By Ministry Before FMA	By Companies and Ministry during FMA	% Change
	(Hectares)		
Harvest	21,237	26,125	23
Regeneration	7,032	16,937	141
Tending	4,274	11,925	179
Site Preparation	6,572	17,790	170


FOREST MANAGEMENT AGREEMENTS
1988 FIVE YEAR REVIEW
KENORA
DRYDEN
LAKE NIPIGON
FORT FRANCES
THUNDER BAY
LAKE SUPERIOR
TIMMINS
GOGAMA
SAULT STE. MARIE
1. FMA 501500 – WHITE RIVER FOREST – DOMTAR INC.
2. FMA 501600 – COCHRANE FOREST – O.O.P.C. LIMITED
3. FMA 501700 – GARDINER FOREST – O.O.P.C. LIMITED
4. FMA 501800 – TIMMINS FOREST – O.O.P.C. LIMITED
FMAS REVIEWED IN 1988
OTHER FMA AREAS

The Agreements have a requirement for the companies to treat Not Satisfactorily Regenerated (NSR) lands which existed at the signing of the FMA. In all instances, the obligations were substantially exceeded (Table 2).

TABLE 2

Not Satisfactorily Regenerated (NSR) obligations and treatment for Four FMA areas for 1983-88.

Company and Forest Name	NSR Obligation to Date (Hectares)	NSR treated to Date
Domtar Inc. White River Forest FMA 501500	776	1,680
Quebec and Ontario Paper Company Ltd. Cochrane Forest FMA 501600	1,233	2,597
Quebec and Ontario Paper Company Ltd. Gardiner Forest FMA 501700	1,707	4,139
Quebec and Ontario Paper Company Ltd. Timmins Forest FMA 501800	2,068	4,043

The committee also reviewed company concerns about the FMA arrangements and made a number of recommendations to address issues specific to each FMA.

In all four cases, the review committee recommended that the Agreements be extended for another five-year term pending finalization of the next terms ground rules. These ground rules have subsequently been agreed to in all cases.

FIVE-YEAR REVIEW
DOMTAR INC.

WHITE RIVER FOREST
AGREEMENT 501500
1983 - 1988

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1. INTRODUCTION

1.1 Purpose of the Review

The Minister of Natural Resources and Abitibi Price Inc. signed a Forest Management Agreement (FMA) on the **WHITE RIVER FOREST**, surrounding the improvement district of White River, on June 16th, 1983. The purpose of that agreement was to provide a continuous supply of forest products for the wood processing plants of the Company at White River and Sault Ste. Marie and to ensure that the **WHITE RIVER FOREST** is harvested and regenerated to produce successive crops of timber on a sustained yield basis.

On November 28th, 1984 the Minister of Natural Resources approved the transfer of the **WHITE RIVER FOREST** from Abitibi-Price Inc. to Domtar Inc. hereafter referred to as the Company. With this transfer, Domtar Inc. assumed full responsibility for the FMA with the purpose of providing a continuous supply of forest products to the plant at White River.

This review of the first five consecutive years of the agreement was conducted on the **WHITE RIVER FOREST** to determine whether the obligations of the Company under the agreement have been satisfactorily performed and to recommend to the Minister of Natural Resources whether the remaining period of the agreement should be extended for a further term of five years.

1.2 The Review Committee

The review was carried out by a committee of four, engaged by the Ministry of Natural Resources for this purpose. The four committee members were:

- Mr. G.W. Bell, R.P.F., Vice-President Woodlands (Retired), Spruce Falls Power and Paper Company Limited, Committee Chairman
- Mr. R.A. Baxter, Director of Operations, Northern Ontario (Retired)*, Ministry of Natural Resources

NOTE: Mr. Baxter was involved in the initial review of documents and records as well as the editing of this final report. Mr. Baxter was unable to attend the review sessions with the Company in White River and was replaced by Mr. Waldram.

- Dr. H.G. Cumming, Professor, Fish and Wildlife Management, School of Forestry, Lakehead University
- Mr. J.M. Waldram, FMA Coordinator, Ministry of Natural Resources

1.3 Tasks of the Review Committee

The review committee's assignment was to undertake a fair and objective review of Domtar Inc. performance on the **WHITE RIVER FOREST** during its first five-year term vis-à-vis its obligations under forest management agreement and to make recommendations to the Minister of Natural Resources on the extension of the agreement's term according to the "Evergreen" section of the agreement.

The review was conducted by:

- examining the management, operating and annual plans and the annual reports prepared by the Company with regard to their submissions dates and their acceptability to the Ministry.
- inspecting the depletion, silvicultural and access road records for adequacy and for conformity with the management plans and the ground rules of the agreement.
- comparing the levels of harvest and treatment of not satisfactorily regenerated (NSR) lands outlined in the annual reports with those levels required by provisions of the agreement.

- selecting and field inspecting harvest cuts, silvicultural projects, and road construction typical of the techniques employed on the forest for conformity with the agreement holder's records and for field application of the ground rules.

- determining the degree to which other forest users and other forest values are accommodated in management planning and in field operations.

- meeting with Company and Ministry district staff to identify problem areas and agreement concerns on the part of either party.

2. PROCEDURES AND FINDINGS

2.1 MANAGEMENT PLANNING

2.1.1 THE PREPARATION OF PLANS

Paragraph 6(1), 10(1), 11(1), 15(1) and 16(1) of the agreement require the Company to prepare management and operating plans and a series of annual plans.

These plans must be prepared and submitted to the Ministry of Natural Resources according to the time frames specified in the agreement and according to the manual that has been approved by the Minister for this purpose.

The Forest Management Agreement was signed on June 16th, 1983. The operating plan for the 1983 to 1988 period was due December 16th, 1983 and was submitted on time, December 14th, 1983. The plan was resubmitted on March 9th, 1984 and received approval June 29th, 1984.

The management plan was due on June 16, 1984. The first draft of the plan was submitted by Abitibi-Price Inc. prior to the due date on May 18th, 1984. The plan was subsequently returned to the Company for required alterations and the final plan resubmitted on November 30th, 1984. It was noted, however that the Ministry of Natural Resources did not give final approval to the management plan until October 29th, 1985. This delay was caused by the transfer of the agreement area and saw-mill to Domtar Inc., January 2nd, 1985. Domtar requested to have the plan reviewed by their staff. No changes were requested by Domtar and the plan was subsequently approved as originally resubmitted by Abitibi-Price.

For the first year of the agreement 1983-1984, Abitibi-Price Inc. operated under the annual plan which was prepared and approved for license 314200 prior to the signing of the agreement. All four succeeding annual plans prepared by Abitibi and Domtar were submitted on schedule. The 1987-1988 work schedule was returned to the Company and resubmitted promptly with alterations as requested by the Ministry.

A Timber Management Plan covering operations for the term (1988-2008) was prepared and submitted by the Company on October 1st, 1987. The plan, however, was not approved at the time of this review pending the resolution of issues related to the age-class allocations. The Company has been operating in 1988 under a contingency plan approved by the Ministry.[1]

In conclusion, although the plans have been submitted on schedule, there have been delays in approving the two management plans. The original management plan for the 1983-2003 period was delayed as a result of the Domtar acquisition of the White River Mill and FMA. Delay in the approval of the management plan for the 1988-2008 period resulted from the late identification of a major issue requiring resolution before plan approval. In the opinion of the review team, this delay may have been prevented had better communication between the MNR and the Company existed.

RECOMMENDATION: That the Company foresters and MNR planning team members attend Timber Management Plan training sessions together, well before preparation of the next Timber Management Plan revision in order to better address and resolve the problems and complexities of the Timber Management Planning process.

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[1] The Timber Management Plan has subsequently been approved on November 23, 1988.

2.1.2 PLAN IMPLEMENTATION

The agreement requires that the Company conduct its operations in accordance with the approved management, operating and annual plans. The accomplishments of the Company in silvicultural operations and road construction are summarized in Table 1.

TABLE 1
Summary of the Company's Forest Operations at Ministry Expense for 1983-88

FMA EXPENDITURE AND ACCOMPLISHMENT REPORT FOR THE FIVE YEAR TERM

FMA 501500
WHITE RIVER FOREST
DOMTAR INC.

ACTIVITY	HECTARES	DOLLARS
HARVEST CUT	13,214	
NATURAL REGENERATION	167	
ARTIFICIAL REGENERATION		
PLANTING CONTAINER	2,527	
SEEDING DIRECT	337	
TOTAL ARTIFICIAL	2,864	
TOTAL REGENERATION	3,031(1)	
TENDING		
CHEMICAL CLEANING/AERIAL	3,190	
TOTAL TENDING	3,190	
SITE PREPARATION		
MECHANICAL	3,931	
TOTAL SITE PREPARATION	3,931	
MNR SILVICULTURAL PAYMENTS		$ 1,434,877
ROAD CONSTRUCTION	**KILOMETRES**	**DOLLARS**
PRIMARY	105.8	
SECONDARY	225.2	
TOTAL CONSTRUCTION	331.0	$ 9,101,272
ROAD MAINTENANCE	616.3	$ 278,528
MNR TOTAL ROAD PAYMENTS		$ 9,379,800
TOTAL PAYMENTS		**$10,814,677**

NOTE: this table represents activities carried out by the Company and the associated costs to MNR. As part of the MNR obligation under the agreement, Forest Management activities were also conducted by MNR, at additional expense.

(1) 3,031 ha (23%) of the area harvested during the five-year term received a regeneration treatment by the company. In addition 1828 ha (14%) received a regeneration treatment by MNR during this five-year phase-out period. Also, 7100 ha (53%) of the area is in the process of being prepared for regeneration through prescribed burns, site preparation and surveys of areas where natural regeneration is expected. The remaining ten percent is currently being evaluated as to treatability.

The review committee examined the harvest cut and road construction records of the Company and found them to be in conformity with the areas allocated for harvest and the road locations specified in the management documents or approved amendments. Due in part to the change in agreement holder, numerous amendments to the plans for harvest allocations and road locations were requested.

The level of harvest, regeneration, site preparation and road construction during the five-year period was lower than planned, while the level of tending significantly exceeded the plans, (Figure 1).

Reasons for the low level of harvest are provided in Section 2.3 and for the low level of road construction in Section 2.5 of this report.

Regeneration levels did not meet the planned objectives for Company operations for the following reasons; lower than planned harvest levels, prescribed burns postponed or cancelled due to unfavorable weather conditions, a change in the logging system from tree-length to full-tree which precluded the use of planned scarification for natural regeneration on many sites, and the occurrence of poplar residuals on mixed-wood cutovers.

Artificial techniques such as direct seeding exceeded planned levels, while the planting program was proportionately in line with the available harvest area. Tending treatments on recent cutover were more than double those planned for the period.

2.2 THE GROUND RULES

2.2.1 KNOWLEDGE AND FAMILIARITY WITH THE GROUND RULES AND THE AGREEMENT

Based on the discussions held with the Company, both in the office and field, it was apparent that the Company staff were knowledgeable and familiar with the provisions of the ground rules and the agreement. There did, however, seem to be some confusion over the responsibility for treatment of NSR 6 lands between the Company and Ministry. This confusion appeared to be aggravated by the delay of two years between the NSR survey itself and the signing of the agreement. After discussion with the Company and MNR during the five-year review, these responsibilities were clarified.

The committee noted that the Company had increased their Forestry staff compliment to deal with their new management responsibilities under the agreement.

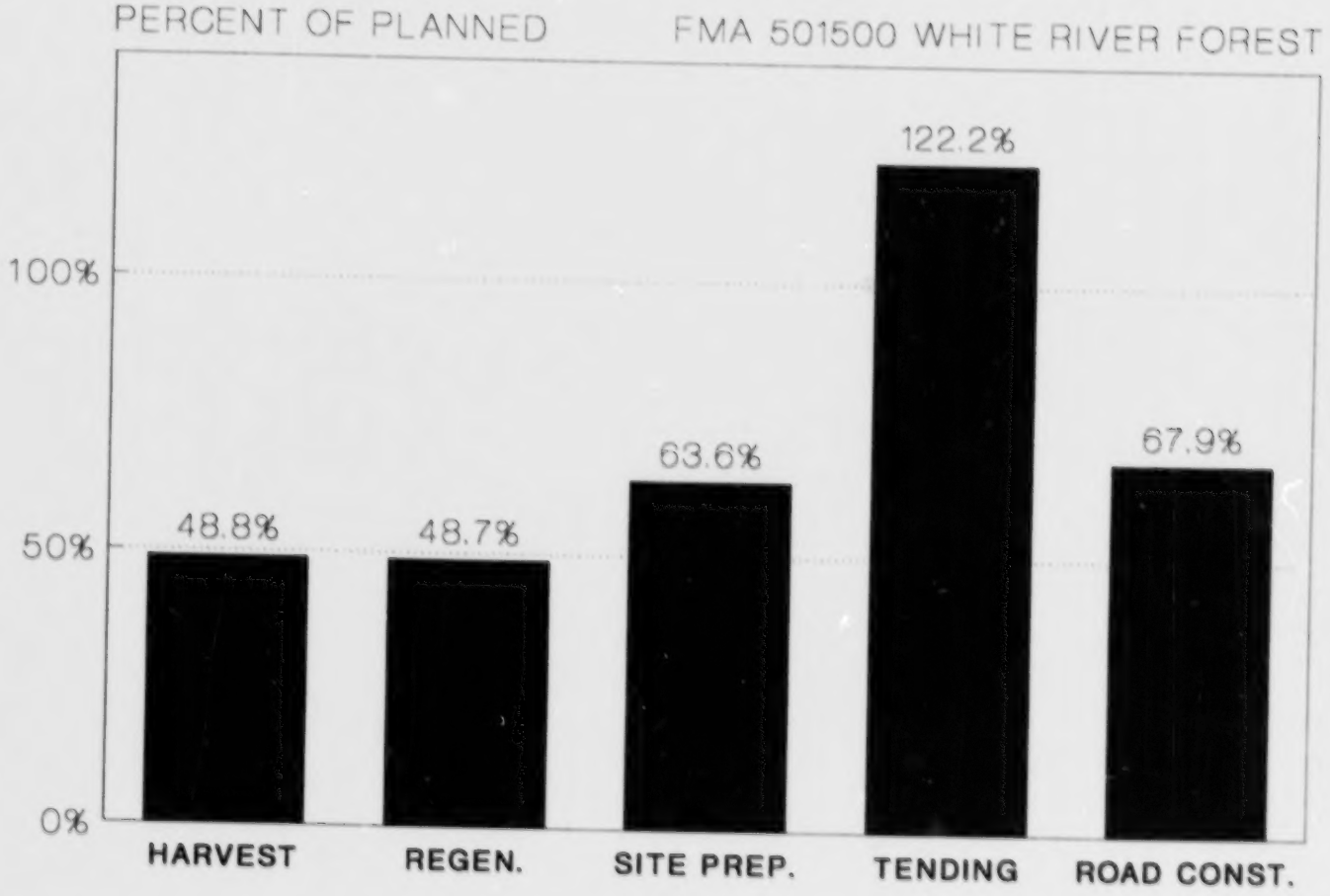
RECOMMENDATION: That the Company and Ministry jointly review the status of lands cutover two years prior to the signing of the agreement and classify these areas to the appropriate NSR classes.

2.2.2 CONFORMITY OF HARVEST AND SILVICULTURAL OPERATIONS WITH THE GROUND RULES

The committee's examination of silvicultural records, its field inspections and its discussions with the designated Crown representative confirmed that harvesting and silvicultural operations have been conducted in accordance with the ground rules.

The ground rules permit the classification of non-treatable sites by mutual agreement. Any area may be classed as non-treatable where extremes in topography, shallowness of soil, excessive rock, poor drainage or inaccessibility make it uneconomic or impractical to treat. Non-treatable areas either harvested or depleted for other reasons in the operating plan period were to be included in the depletion section of the annual report. To date, no areas have been declared as non-treatable, although the Company has kept records of non-treated areas.

FIGURE 1: COMPARISON OF OPERATING PLAN vs ACTUAL



The review committee is concerned that non-treatable areas may be overlooked by both parties and that a failure to track natural regeneration progress or classify the sites non-treatable, could result in disputed retreatment obligations or inadvertent loss of productive land for documentation and planning purposes.

RECOMMENDATION: That the Company and the Ministry jointly review the status of lands cut over during this five-year term, for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1989-90 annual report.

The Committee noted that the Company is a member of the North Shore Tree Improvement Co-operative and as such will be involved in plus-tree collections, and establishment and maintenance of family trials and seed orchards. The long-term objective of this co-operative program is to improve the genetic quality of growing stock planted on the **WHITE RIVER FOREST**.

Also of note was the Company's initiative under clauses 3.1 and 4 of the ground rules to experiment with cone-shelter seeding of jack pine. A site inspection of this trial by the committee indicated promising results that could lead to the use of this lower cost alternative to tree planting.

The Company is to be commended for its pursuit of genetic gains and lower cost regeneration alternative.

2.2.3 CONFORMITY OF INVOICING PRACTICES WITH THE GROUND RULES

The invoicing procedures of the Company were found to be in general conformity with those specified in the ground rules. In the earlier years of the agreement some reconciliations were required after submission of the invoices; however, this problem has been resolved by the Company representative and the DCR verifying hectares treated, number of trees planted and kilometres of road constructed or maintained prior to submission of invoices.

2.2.4 THE PREPARATION OF NEW GROUND RULES

The Forest Management Agreement with the Company requires both parties to commence the preparation of new ground rules for the next five-year term at least eight months prior to the expiry of the old ground rules, and to agree upon those new ground rules on or before that expiry date of March 31st, 1988.

The preparation of the new ground rules commenced on time but at the time of the five-year review of the FMA, (August 2nd, 1988), the ground rules had not been agreed to by the Company and MNR District. The ground rules were, however, in the final approval stages. [2]

It was apparent to the committee that the work load on the DCR in the latter half of 1987 in reviewing a new Timber Management Plan, an annual work schedule and new ground rules and preparing an annual work schedule for the Crown unit at the same time, played a major role in the delay of ground rule negotiation and reaching an agreement on same.

RECOMMENDATION: That the Ministry take the necessary steps to ensure that future ground rule negotiations are completed in time for approval by the required date.

2.3 HARVEST LEVELS, ALLOWABLE DEPLETION, YIELDS AND WOOD FLOW

According to paragraph 20(1) of the agreement, the Company has agreed to maintain its harvest on the **WHITE RIVER FOREST** at a level between 90% and 110% of the calculated allowable depletion (allowable cut) for each working group. The Company may request the Minister to authorize variations to the levels specified in the agreement.

Paragraphs 20(3) and 20(4) of the agreement provide for either a remedy or liquidated damages in the event of an overcut or undercut, respectively, on the area under agreement. The agreement holder may avoid liquidated damages through the declaration of timber surplus (paragraph 20(5)) to its needs in an approved management plan; however, liquidated damages do not apply in the first five-year term of a Forest Management Agreement.

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[2] Ground rules have subsequently been agreed to.

The Company did not meet its harvest obligations (Figure 2) in any of the conifer working groups. Three primary factors contributed to the conifer undercut.

Firstly, the sawmill was shut down for 4 1/2 months in order to make major modifications; secondly, start-up problems at the mill persisted for longer than planned; thirdly, more timber was purchased from external sources than forecast.

As a result of a 6.5 million dollar modernization of the sawmill, production has been increased significantly and harvesting of 97% of the conifer maximum allowable depletion (MAD) is predicted for the next five-year term. Yield predicted for the next five-year term is similar to actual yields recovered during the five-years under the review. Wood requirements have increased from 157,000 cubic metres in 1983 to an estimated 480,000 cubic metres in 1989.

The Company does not use hardwood in its mill and is dependent on other companies to utilize the hardwood allowable depletions. This arrangement has resulted in the utilization of approximately 20% of the allowable depletion of the poplar and birch working groups. The Company is currently working toward full utilization of its hardwoods either through third parties or market sales.

The Company has been increasing its harvest levels and is predicting 97% utilization of the conifer MAD in the next five-year period, however, should market or production forecasts change planned harvest levels, the following is recommended.

RECOMMENDATION: That in the event the Company should forecast harvest levels during the second five-year period to fall below the 90% level of those stated in the current plan, the Company should take immediate action to request, with reasonable explanation, an undercut variation from the Minister and to amend its management plan with a further surplus declaration.

2.4 NSR OBLIGATIONS

The review committee was very impressed with the 1680 ha of not satisfactorily regenerated (NSR) land treated, compared to the five-year commitment of 776 ha. (Figure 3)

The Company, in the three years that it has been responsible for the FMA, has done a commendable job in regenerating its NSR lands. In addition, Company field inspections and subsequent silvicultural regeneration treatment experiments have shown that some NSR lands classified as untreatable can be re-classified as treatable at a lower but acceptable stocking density. This treatment has been negotiated and agreed to in the new ground rules.

The review committee commends the Company on its initiative in upgrading formerly untreatable NSR land to productive forest land.

2.5 ROAD CONSTRUCTION

Paragraph 31 of the agreement provides for the Minister to pay, subject to a maximum amount per kilometre, for the construction or reconstruction of forest access roads on the agreement area. To be eligible for payment, roads must be included in approved annual plans and constructed according to the standards specified in Schedule "E" of the agreement.

On the **WHITE RIVER FOREST**, roads are inspected jointly by a Ministry and a Company representative to verify standards and measure lengths. In no case during the period under review was a road found to be sub-standard.

FIGURE 2: COMPARISON OF ALLOWABLE DEPLETION AND HARVEST

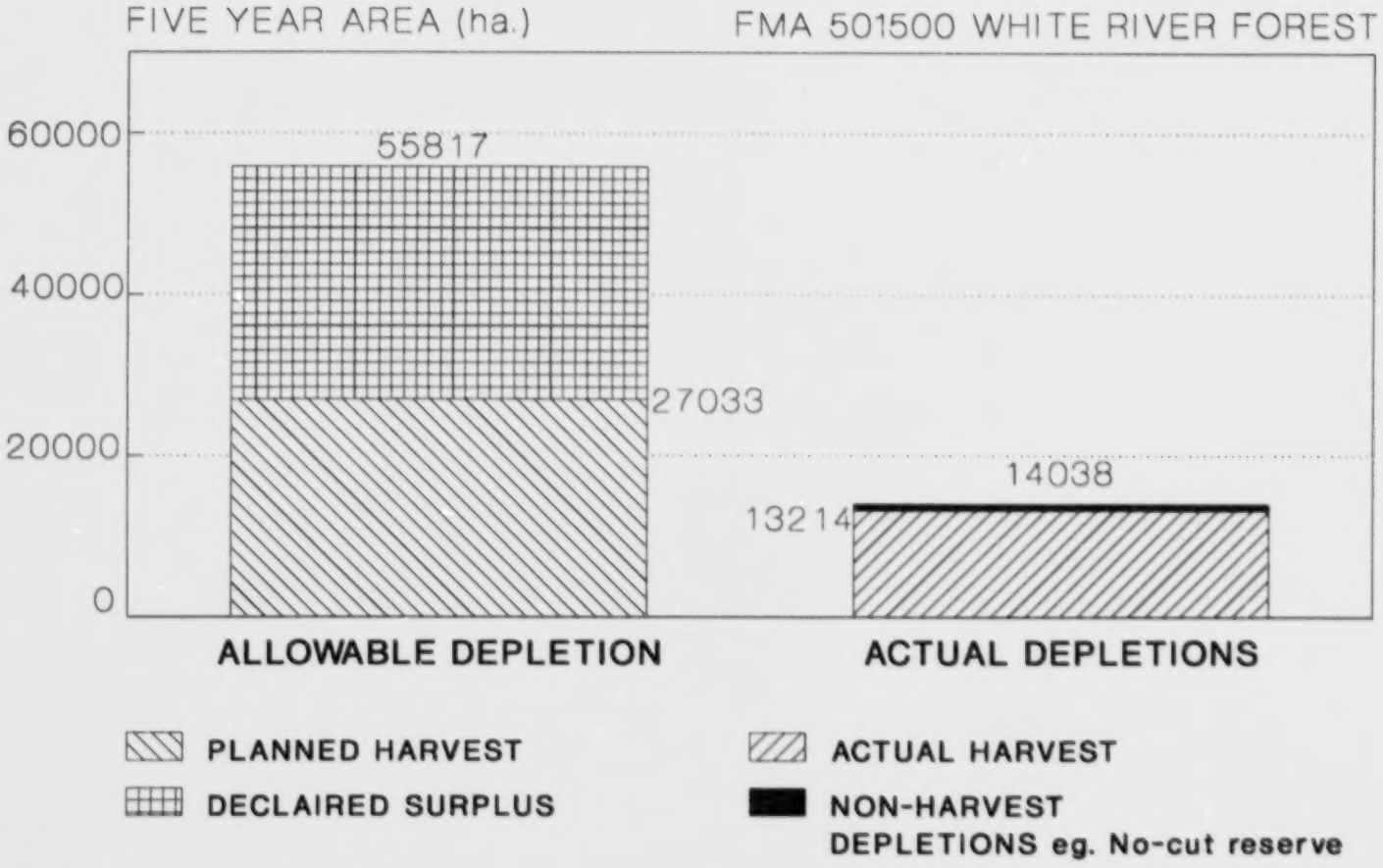

FIGURE 3: COMPARISON OF NSR TREATMENT OBLIGATION AND NSR TREATMENT, 1983-88

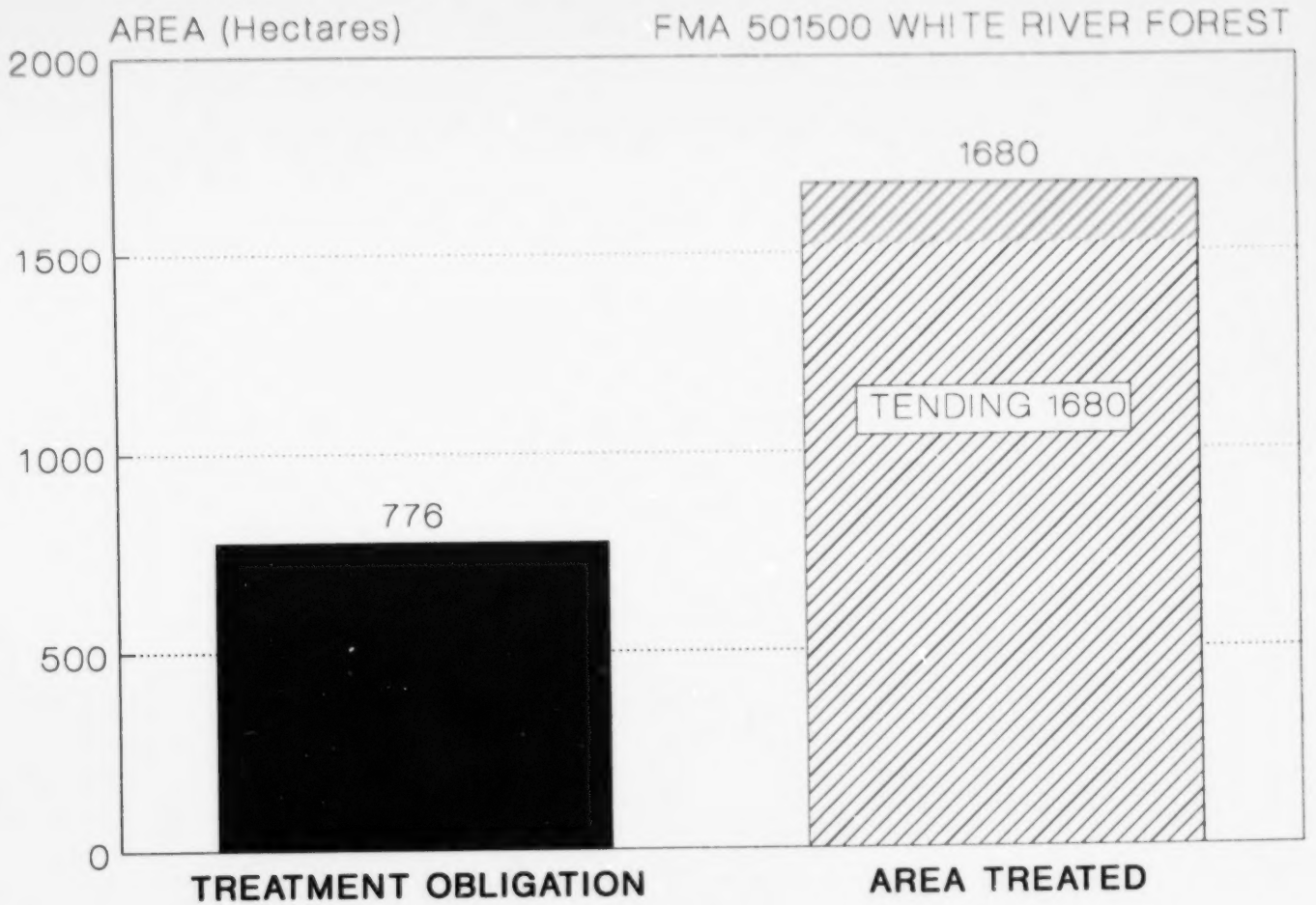

Figure 1 shows that fewer roads were built than planned. The reason given by the Company was the inadequate and inconsistent levels of Ministry funding that made a sustained construction program difficult. For example, received percentages of road funding requested in annual plans varied from 43% (1985) to 98% (1987). Although there may have been good reasons for these differences, such as the reduction in harvest, or changes in eligibility of the roads for funding, the annual variation in funding created problems with managing the road construction program. The Company actually used 98% of the funds made available by the Ministry during the five years. The Company policy of accessing older stands first led them to place priority on the building of primary roads. Thus primary road construction fell short of planned by only 14% but secondary road construction by 38%. Since upkeep of both old and new roads is necessary for movement of logs, road maintenance fell short of planned by only 4%.

Roads totalling 443 KM existed on the **WHITE RIVER FOREST** prior to signing the FMA. Large areas of the north-east and south-west extremities of the forest remained inaccessible. During the period under review the Company constructed 106 KM of primary roads and 225 KM of secondary roads. Primary roads built during this five-year term provided access to about half of each extremity.

2.6 COMPANY RECORDS

The committee found that Company records respecting depletion data were deficient in the recording and tracking of by-pass areas and non-harvest depletions for the five-year period. The committee is concerned that failure to deplete or reclassify these areas, could lead to an artificially inflated maximum allowable depletion in future periods.

RECOMMENDATION: That the Company take steps to record, deplete or reclassify all depletions back to the commencement of the FMA period and make the appropriate adjustments to the land base before future recalculation of the maximum allowable depletions (MAD).

Areas cut are marked on Mylar Forest Resources Inventory (FRI) maps covering the FMA area. Records of silvicultural activities are then entered on new mylar base maps. All areas on one base map that have been treated the same way in the same year are then designated by a single project number that includes a letter code and colour code for quick identification of treatments. Areas of two site preparation activities and one planting operation were checked by dot-grid and electronic planimeter and found to be accurate.

The Company has not received the records of the Ministry's pre- and post FMA silvicultural work conducted on the agreement area. These records are required for effective forest management.

RECOMMENDATION: That the Ministry provide the Company with all pertinent silvicultural data and records of work conducted by the Ministry on the FMA area both prior to and after signing of the agreement.

It was noted that the Company intends to implement a geographic information system (GIS) before the end of 1989 to track and record information such as depletions, growth and yield, local volume tables and allowable depletion. This system will also be used for such applications as wood supply modelling and economic analysis. The Company is to be commended for these planned initiatives.

2.7 ANNUAL REPORTS

Paragraph 38 of the agreement requires that the holder prepare an annual report in accordance with the Forest Management Manual summarizing certain aspects of operations during the preceding year.

The committee found that reported road construction and maintenance lengths in one investigated instance and two years' reports of areas planted, were all virtually identical with figures calculated by the committee. The annual reports were accurate and submitted on time.

2.8 INTEGRATION WITH OTHER FOREST USERS

Section 6 of the ground rules, entitled Management For Other Uses, outlines responsibilities for managing areas for uses other than forest products. The provisions are implemented through the Management Plan and detailed in the Operating and Annual Plans.

Although the text of the management and operating plans did not detail how the Company proposed to conduct operations to address the areas to be managed for other forest users or uses, actual field accommodation of other users and uses has been conducted well. Ministry personnel made good use of the exclusions and the modified management areas to mitigate the effects of proposed large clearcuts by locating no-cut or deferred-cut networks along streams. In addition, the topography divided many cut areas and rendered others inoperable, while poor markets for hardwoods resulted in partial cuts leaving stands of some value for wildlife.

Tourism concerns were addressed, after Company personnel attended meetings with the Ministry and outfitters; haul roads were relocated, gates installed, and non-cut areas left along canoe routes.

Road crossings have been well handled in some parts of the forest, but less well in others. Some culverts were set too high preventing fish movement, and some bridge approaches were eroding. In most cases the situation was saved by gravel soils, and no fisheries values were threatened, but the potential for damage was present.

RECOMMENDATION: That the Company review and routinely apply the recently produced water crossing guidelines, especially the placement of culverts and the protection of stream banks.

3. MAINTENANCE AND PRODUCTIVITY

Table 2 shows the maximum allowable depletion which was calculated for the **WHITE RIVER FOREST** at the beginning of the five-year term under review.

It indicates that the levels of harvest and other forest depletions were well below the maximum allowed under sustained yield management for all working groups.

Thirty-seven percent of the amount of area harvested during the five-year term received a regeneration treatment. In addition, fifty-three percent (7100 ha) of the area is in the process of being prepared for regeneration through prescribed burns, site preparation and surveys of areas where natural regeneration is expected. The remaining ten percent is currently being evaluated as to treatability.

The area of regeneration assessed as free-to-grow during the term was 1242 ha; this area will increase substantially in the next five-year term as more Company-treated and naturally regenerated areas become eligible for free-to-grow.

Table 2 **WHITE RIVER FMA 501500**

Comparison of the 1983-88 maximum allowable depletion, total depletion, harvest and regeneration activities and the 1988-93 maximum allowable depletion.

Working Group/or Forest Unit	1983-1988 Maximum Allowable Depletion	Total Depletion	Harvest Cut	Regeneration Total	1988-1993 Maximum Allowable Depletion
Jack Pine 1	4,800	2,597	2,506		8,440
Jack Pine 2	7,519	3,237	3,005		N/A
Jack Pine 3	N/A				1,362
Spruce 1	9,783	2,553	2,422		9,872
Spruce 2	5,874	2,132	1,905		N/A
Spruce 3	N/A				776
Spruce 4	N/A				1,007
Balsam 1	4,464	67	67	N/A	4,351
Balsam 4	N/A				350
Poplar 1	14,933	2,959	2,853		2,586
Poplar 2	N/A				11,592
Poplar 4	N/A				2,093
White Birch 1	8,444	467	430		1,845
White Birch 2	N/A				2,497
White Birch 4	N/A				1,586
Protection Forest	0	26	26		
TOTAL	55,817	14,038	13,214	4,859 (1)	48,357

N/A - not applicable

(1) Ministry phase-out operations included in regeneration total

4. COMPANY CONCERNS

The Company was provided the opportunity to express any concerns that it might have with regard to FMA 501500 or with regard to the Ministry's administration of the agreement.

The following are the concerns expressed by senior management of Domtar Inc.

1. FMA Funding
   The Company expressed concern over the uncertainty of funding as well as the delays in official notification of approval. Delays of funding approval cause budgeting, contracting and execution problems for the company. To meet commitments, the company must often proceed with road construction and regeneration projects prior to receiving official funding approval. It is requested that the Ministry accelerate their process for funding commitments to the company to meet a deadline of April 1st to coincide with the start of annual operations.

2. Ministry delays in generating FMA documents.
   The amount of information and number of documents to be generated has grown in the past five years whereas the Ministry staff has remained stable or has been reduced during this same period. As a result of the increased work load required to generate FMA documents the Ministry is often unable to meet FMA deadlines. It is suggested that the Ministry review the staff workload relationship and either streamline current FMA documents that the present staff are capable of processing in the prescribed time limits, or increasing staff to meet present requirements.

3. Timber Management Plan Amendments
   The Company is concerned that changes in policy with respect to treatment and prescriptions for management of other resources that have just been released (e.g. Fisheries) may require major amendments to their recently produced TMP.

4. Recording of Partial Harvests
   The Company is experiencing difficulty in the recording of by-pass or partially depleted areas and requests Ministry advise on how to record these areas in their depletion records. The areas in question are mainly hardwood forest units which are by-passed or hardwood forest units from which the conifer component has been removed.

5. MNR Plantation and Work Records
   The Company presently has no records of the areas regenerated or treated by MNR. Without this history the Company is not able to tend the plantations or to prescribe treatment for these MNR areas. The Company requests maps and records of treatment for all areas treated by the MNR on the FMA area.

5. CONCLUSIONS AND RECOMMENDATIONS

The review committee is satisfied that the obligations of the Company under the agreement have been satisfactorily performed by the Company during the five-year term under review, but notes that the Company and the Ministry have not agreed to a management plan and ground rules for the second five-year term.[3]

The committee was encouraged with the progress made during the Company's three year responsibility for the FMA, in the regeneration of rocky and boulder sites as well as the revised organization to manage the FMA. It is obvious from the intensity of the silvicultural efforts of tree improvement and improved cost efficient regeneration systems, as well as the new record keeping system (GIS) currently being developed, and the increase in forestry staff, that the Company is fully committed to the management and successful regeneration of the **WHITE RIVER FOREST**.

RECOMMENDATION NO. 1: That the Minister extend the remaining period of FMA 501500 by a further term of five consecutive years to March 31st, 2008, pending agreement on new ground rules by both the Company and Ministry and the approval of the Timber Management Plan.[4]

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[3] A management plan has subsequently been approved and ground rules agreed to.
[4] Timber plan has subsequently been approved and ground rules agreed to.

RECOMMENDATION NO. 2: That the Company foresters and MNR planning team members attend Timber Management Plan training sessions together, well before preparation of the next Timber Management Plan revision, in order to better address and resolve the problems and complexities of the Timber Management Planning process.

RECOMMENDATION NO. 3: That the Company and Ministry jointly review the status of lands cut over two years prior to the signing of the agreement and classify them in the appropriate NSR class.

RECOMMENDATION NO. 4: That the Company and the Ministry jointly review the status of lands cut over during this five-year term, for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1989-90 annual report.

RECOMMENDATION NO. 5: That the Ministry take the necessary steps to ensure that future ground rule negotiations are completed in time for approval by the required date.

RECOMMENDATION NO. 6: That in the event the Company should forecast harvest levels during the second five-year period to fall below the 90% level of those stated in the current plan, the Company should take immediate action to request, with reasonable explanation, an undercut variation from the Minister and to amend its management plan with a further surplus declaration.

RECOMMENDATION NO. 7: That the Company take steps to record, deplete or reclassify all depletions back to the commencement of the FMA agreement and make the appropriate adjustments to the land base before future recalculations of the maximum allowable depletion (MAD).

RECOMMENDATION NO. 8: That the Ministry provide the Company with all pertinent silvicultural data and records of work conducted by the Ministry on the FMA area both prior to and after signing of the agreement.

RECOMMENDATION NO. 9: That the Company review and routinely apply the recently produced water crossing guidelines, especially the placement of culverts and the protection of stream banks.

FIVE YEAR REVIEW

QUEBEC AND ONTARIO PAPER COMPANY LIMITED

(FORMERLY Q.N.S. PAPER COMPANY LIMITED, ONTARIO PAPER COMPANY DIVISION)

COCHRANE FOREST

AGREEMENT 501600

1983 - 1988

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1. INTRODUCTION

1.1. PURPOSE OF THE REVIEW

The Minister of Natural Resources and Q.N.S. Paper Company Ltd., Ontario Paper Company Division (now known as the Quebec and Ontario Paper Company Ltd.,) signed a Forest Management Agreement (FMA) on the **COCHRANE FOREST** south of Cochrane, on June 20th, 1983. The purpose of this agreement was to provide for a continuous supply of forest products to the Company's mill at Thorold and to ensure that the **COCHRANE FOREST** was harvested and regenerated to produce successive crops of timber on a sustained yield basis.

This review of the first five consecutive years of the agreement was conducted on the **COCHRANE FOREST** to determine whether the obligations of the Company under the agreement have been satisfactorily performed and to recommend to the Minister of Natural Resources whether the remaining period of the agreement should be extended for a further term of five years.

1.2. THE REVIEW COMMITTEE

The review was carried out by a committee of three, engaged by the Ministry of Natural Resources for this purpose. The members were as follows:

- Mr. G. W. Bell, R.P.F., Vice-President Woodlands (Retired), Spruce Falls Power and Paper Company Limited, Committee Chairman
- Mr. R. A. Baxter, Director of Operations, Northern Ontario (Retired), Ministry of Natural Resources
- Dr. H. G. Cumming, Professor, Fish and Wildlife Management, School of Forestry, Lakehead University

1.3. TASKS OF THE REVIEW COMMITTEE

The review committee's assignment was to undertake a fair and objective review of Quebec and Ontario Paper Company's performance on the **COCHRANE FOREST** during its first five year term vis à vis its obligations under Forest Management Agreement #501600 and to make recommendations to the Minister of Natural Resources on the extension of the agreement's term according to the "Evergreen" section of the agreement (i.e., Section 15, paragraph 33).
The review was conducted by:

- examining the management, operating and annual plans, and the annual reports prepared by the Company with regard to their submission dates and their acceptability to the Ministry,
- inspecting the depletion, silvicultural and access road records for adequacy and for conformity with the management plans and the ground rules of the agreement,
- comparing the levels of harvest and treatment of not satisfactorily regenerated (NSR) lands outlined in the annual reports with the levels required by provisions of the agreement,
- selecting and field inspecting harvest cuts, silvicultural projects, and road construction typical of the techniques employed on the forest for conformity with the agreement holder's records and for field application of the ground rules,
- determining the degree to which other forest users and other forest values are accommodated in management planning and in field operations, and
- meeting with Company and Ministry district staff to identify problem areas and agreement concerns on the part of either party.

2. PROCEDURES AND FINDINGS

The **COCHRANE** and **GARDINER** Forests, FMA's 501600 and 501700, have been amalgamated commencing April 1st, 1988 into the Driftwood Forest. Data for the **COCHRANE** and **GARDINER FORESTS** for the next five year term refer to the **DRIFTWOOD FOREST** FMA.

2.1. MANAGEMENT PLANNING

2.1.1. THE PREPARATION OF PLANS

Paragraph 6(1), 10(1), 11(1), and 15(1) of the agreement require the Company to prepare management and operating plans and a series of annual plans. These plans must be prepared and submitted according to the time frames specified in the agreement and according to the manual that has been approved by the Minister for this purpose.

The forest management agreement was signed on June 20th, 1983 and the management plan was due twelve months later. Extensions to this date were granted by the Ministry until September 17th, 1984. The plan was submitted by the extended due date. Alterations were requested by the Ministry and the plan was resubmitted April 24th, 1985 and approved October 29th, 1985.

The operating plan for the 1983 to 1988 period was due December 20th, 1983. Extensions were granted by the Ministry until May 7th, 1984 and the plan was submitted on that date. The plan was returned to the Company for alterations, was resubmitted May 6th, 1985 and approved August 1st, 1985.

The extended time required in resubmitting the management and operating plans was the result of the workload placed on both the Company and Ministry staff in reviewing and revising the plans as well as the time required to hold the required public consultations.

The extensions requested were mainly due to the workload placed on the forestry staff of the Company's Timmins office in preparing three management plans, three operating plans and three annual plans in the same period of time (i.e., for the **GARDINER, COCHRANE** and **TIMMINS FMA's**). However, some delay can be attributed to the inability of the Company's Thorold office to supply long term mill requirements for the Thorold mill due to start up problems encountered following its modernization.

Prior to the signing of the agreement, the annual plan for the first year of the agreement (1983-1984) was prepared under licenses 080200 and 381900. The annual plans or work schedules for the remainder of the years under review were submitted by the due dates. The plans were all returned to the Company for alterations and were resubmitted by the required dates.

The Company has prepared a timber management plan for the second five year term for the new Driftwood agreement (i.e. combined Cochrane and Gardiner FMAs) in accordance with the new **Timber Management Planning Manual for Crown Lands in Ontario**.

The new plan was submitted by the due date of October 1st, 1987 and approved by the Ministry prior to the commencement of operations.

In conclusion, although extensions to the due dates for the 20 year management plan and the 5 year operating plan were requested by the Company and granted by the Ministry, the Company met its management planning obligations.

2.1.2. PLAN IMPLEMENTATION

The agreement requires that the Company conduct its operations in accordance with the approved management, operating and annual plans. The accomplishments of the Company in silvicultural operations and road construction are summarized in Table 1.

The review committee examined the harvest cut and road construction records of the Company and found them to be generally in conformity with the areas allocated for harvest and the road locations specified in the management documents. Two minor deviations from the approved cutting areas were recorded. Amendments to the plans were requested and approved both in harvest allocation and road location. The level of regeneration and access construction during the five years was lower than planned while the level of harvest, site preparation and tending was above planned as portrayed in Figure 1.

Reasons for the high level of harvest are provided in Section 2.3. and for the low level of road construction in Section 2.5. of this report. Regeneration levels did not meet the planned objective because the amount of area expected to regenerate naturally within this five year period proved to be overly optimistic. Artificial techniques such as planting, however were very close to the planned levels.

Table 1
Summary of the Company's Forest Operations at Ministry Expense for 1983 - 1988

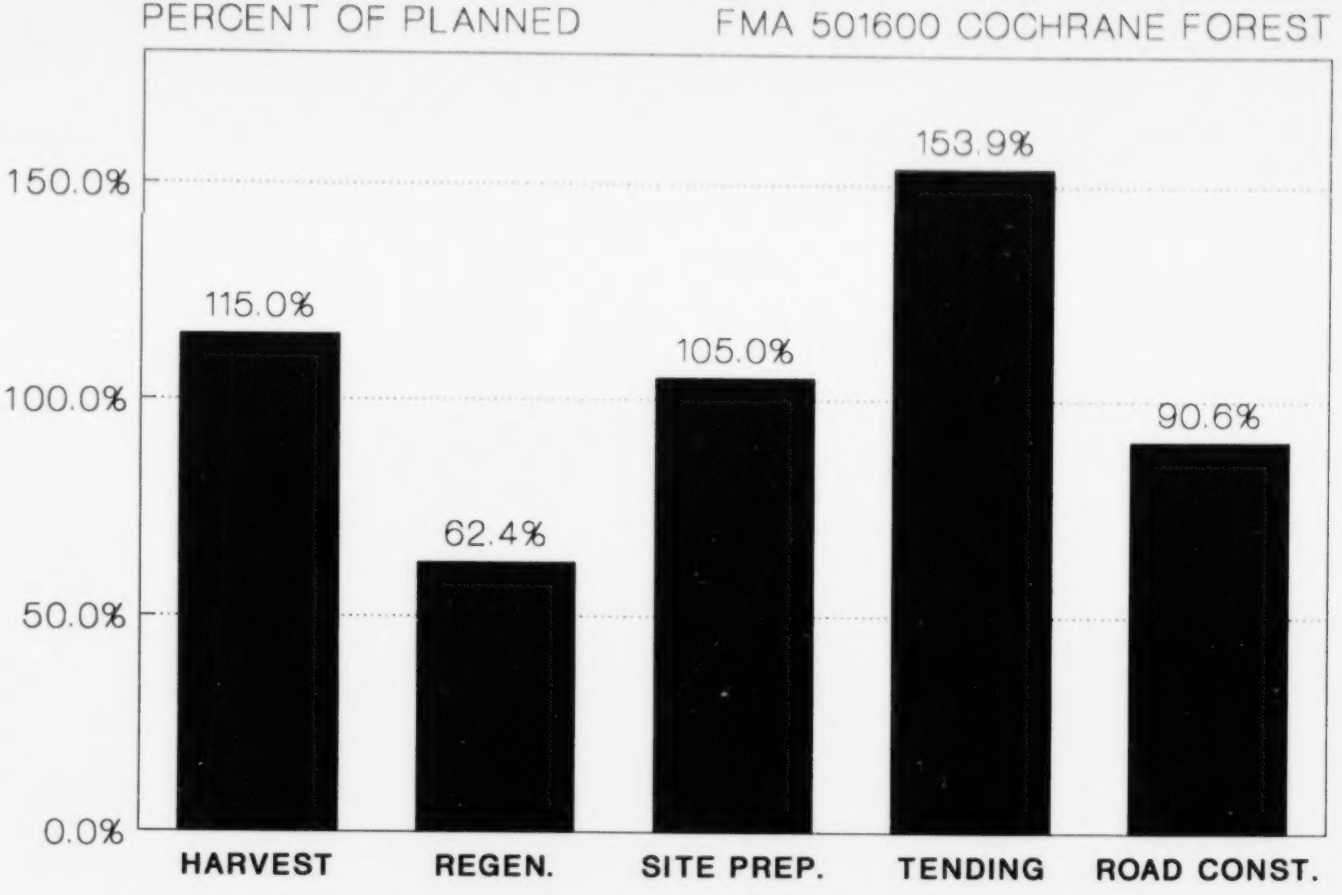
FMA EXPENDITURE AND ACCOMPLISHMENT REPORT FOR THE FIVE YEAR TERM 1983-1988

FMA 501600 COCHRANE FOREST QUEBEC AND ONTARIO PAPER COMPANY

ACTIVITY		HECTARES	DOLLARS
HARVEST CUT		3,599	
NATURAL REGENERATION		666	
ARTIFICIAL REGENERATION			
	PLANTING BAREROOT	505	
	PLANTING CONTAINER	702	
	SEEDING WITH SITE PREPARATION	0	
	TOTAL ARTIFICIAL	1,207	
TOTAL REGENERATION		1,873	
TENDING			
	CHEMICAL CLEANING/AERIAL	1,998	
	CHEMICAL CLEANING/GROUND	2	
	OTHER TENDING	0	
	TOTAL TENDING	2,000	
SITE PREPARATION			
	MECHANICAL	1,829	
	CHEMICAL	0	
	TOTAL SITE PREPARATION	1,829	
MNR SILVICULTURAL PAYMENTS			$ 1,064,855
ROAD CONSTRUCTION		KILOMETRES	DOLLARS
	PRIMARY	69.9	
	SECONDARY	46.8	
	TOTAL CONSTRUCTION	116.7	$ 2,819,937
ROAD MAINTENANCE		252.7	$ 114,347
MNR TOTAL ROAD PAYMENTS			$ 2,934,284
TOTAL PAYMENT			$ 3,999,139

NOTE: This table represents activities carried out by the Company, and the associated costs to MNR. As part of the MNR obligation under the Agreement, forest management activities were also conducted by MNR, at additional expense.

FIGURE 1: COMPARISON OF OPERATING PLAN vs ACTUAL



2.2. THE GROUND RULES

2.2.1. KNOWLEDGE AND FAMILIARITY WITH THE GROUND RULES AND THE AGREEMENT

Based on discussions held with the Company, both in the office and field, it was apparent to the review committee that the Company staff were knowledgeable and familiar with the provisions of the ground rules and the agreement.

2.2.2. CONFORMITY OF HARVEST AND SILVICULTURAL OPERATIONS WITH THE GROUND RULES

The committee's examinations of silvicultural records, its field inspections and its discussions with the designated Crown representative (DCR) all confirmed that harvesting and silvicultural operations have been conducted in accordance with the ground rules.

The ground rules permit the classification of non-treatable sites by mutual agreement. Any area may be classed as non-treatable where extremes in topography, shallowness of soil, excessive rock, poor drainage or inaccessibility make it uneconomic or impractical to treat. Non-treatable areas either allocated for harvesting in the operating plan or depleted for other reasons during the operating plan period were to be included in the depletion section of the annual report. To date, the only areas that have been declared as non-treatable on the **COCHRANE FOREST** have been road right-of-ways, despite the fact that almost 3,600 hectares (ha) have been harvested.

The review committee is concerned that non-treatable areas may have been overlooked by both parties and that a failure to classify them will result in disputed retreatment obligations.

RECOMMENDATION: That the Company and the Ministry jointly review the treatable status of lands cut over during this five year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1989-1990 annual report.

2.2.3. CONFORMITY OF INVOICING PRACTICES WITH THE GROUND RULES

The invoicing procedures of the Company were found to be in conformity with those specified in the ground rules. The Company representatives and the DCR reconciled any differences in hectares treated, number of trees planted or kilometres of road constructed or maintained, before submission of invoices.

2.2.4. THE PREPARATION OF NEW GROUND RULES

The forest management agreement with the Company requires both parties to commence the preparation of new ground rules for the next five year term at least eight months prior to the expiry of the old ground rules, and to agree upon those new ground rules on or before the expiry date of March 31st, 1988. The committee notes that the preparation of the new ground rules commenced prior to the required date but that at the time of the five year review of the FMA, June 21st, 1988, the ground rules had not been agreed to by either party. Under paragraphs 14(2) and 33(a)(b) of the agreement, ground rules for the next term are to be agreed to before extension of the agreement for a further five-year term.

RECOMMENDATION: That Company and Ministry officials take immediate action to resolve differences in the negotiations for new ground rules.

2.3. HARVEST LEVELS, ALLOWABLE DEPLETION, YIELDS AND WOOD FLOW

According to paragraph 20(1) of the agreement, the Company has agreed to maintain its harvest on the **COCHRANE FOREST** at a level between 90% and 110% of the calculated allowable depletion (allowable cut) for each working group. The Company may request the Minister to authorize variations to those levels specified in the agreement.

Paragraphs 20(3) and 20(4) of the agreement provide for either a remedy or liquidated damages in the event of an overcut or undercut, respectively, on the area under agreement. The agreement holder may avoid liquidated damages through the declaration of timber surplus to its needs in an approved management plan, however, liquidated damages do not apply in the first five year term of a forest management agreement.

The Company met its harvest obligations in the spruce working group but stands severely damaged by spruce budworm contributed to an undercut in the balsam fir working group. The poplar was declared surplus but, during the five year term, a demand for poplar developed and Forty-Five percent of the poplar allowable depletion was harvested.

Figure 2 shows a comparison of the actual harvest for the five year term with the allowable depletion, for all working groups combined.

The Company has been vigilant in declaring any surplus and are commended for their actions.

For the five year period, actual conifer yields per hectare were found to be extremely close to the predictions forecasted for the period in the 1983 Operating Plan. Yields predicted for the 1988-1993 operating period from the new Timber Management Plan would seem to indicate continuing similar yields, however, volume forecasts in the budworm damaged balsam fir working group are uncertain; as are expected harvest levels.

2.4. NSR OBLIGATIONS

Under provisions of the agreement, the Company has an obligation to reforest NSR lands, at the rate of 5% of class 2 and 3 NSR lands annually. This amounts to a total of 1,233 hectares for the five year term under review and 4,931 hectares for the entire 20 year period of the agreement.

The review committee was impressed with the 1,996 ha of NSR land treated but noted that an additional 601 hectares of previously listed NSR land had been field inspected, found not to require treatment and been declared naturally regenerated (Figure 3). Normally these areas would not be credited as part of the NSR obligation, but failure to do so now would result in the Company not having sufficient NSR land to treat economically to meet its commitment.

RECOMMENDATION: That the Minister recognize the naturally regenerated 601 hectares as part of the NSR obligations and the Company be credited with 2,597 ha of NSR lands treated.

2.5. ROAD CONSTRUCTION

Paragraph 31 of the agreement provides for the Minister to pay subject to a maximum amount per kilometre for the construction or reconstruction of forest access roads on the agreement area. To be eligible for payment, roads must be detailed in an approved annual plan and constructed according to the standards specified in Schedule "E" of the agreement.

The terrain of the **COCHRANE FOREST** is generally flat with soils composed mainly of deep organic on clay. However, a few eskers provide better foundations for roads and supply gravel.

Relatively few variations were found between planned and actual routes. One small change from the planned route occurred in Mann Township due to a field error resulting from the difficulties of working in a massive blowdown.

Roads were constructed mainly to provide access to over mature stands while in some instances existing roads were upgraded to facilitate transportation of wood during the summers.

In this FMA roads are constructed by contractors under company supervision and inspected jointly by a company representative and an MNR field technician prior to final invoicing. The company generally constructs roads to a higher standard than the specifications outlined in the ground rules of the agreement although on occasion invoices have been accepted on a provisional basis. (Example: Requirements for additional gravel to thin spots). Due to timing of gravel application (winter applications) some of the roads constructed in the early years of the FMA fell below standard and had to be repaired by the company at their cost. The problems with timing of gravel application have now been resolved.

Sections of road were measured for length against the invoices and, in all but one instance, were found to be consistent. This one discrepancy was not considered to be a problem as actual billing is based on field-measured distances.

FIGURE 2: COMPARISON OF ALLOWABLE DEPLETION AND HARVEST

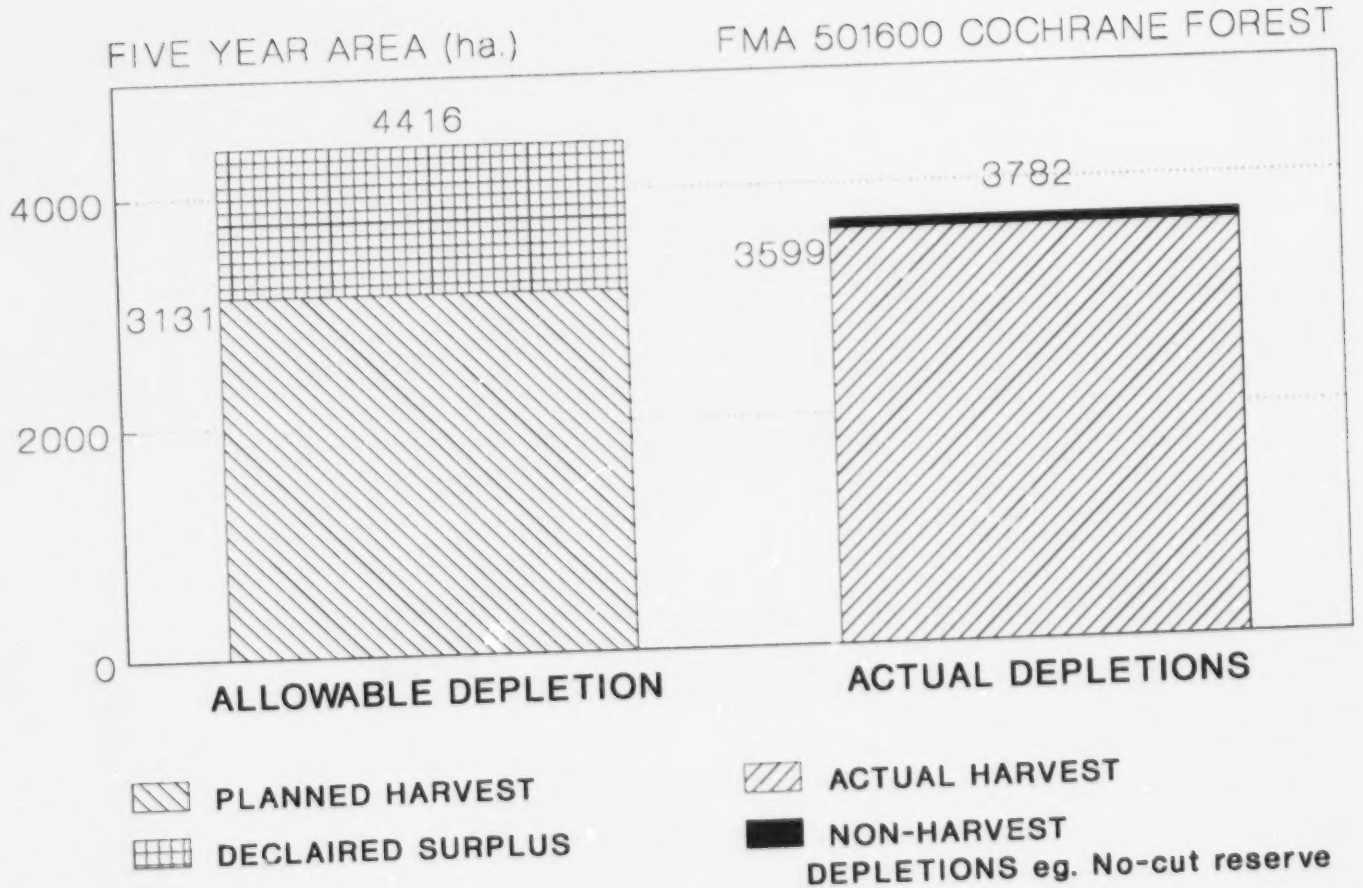
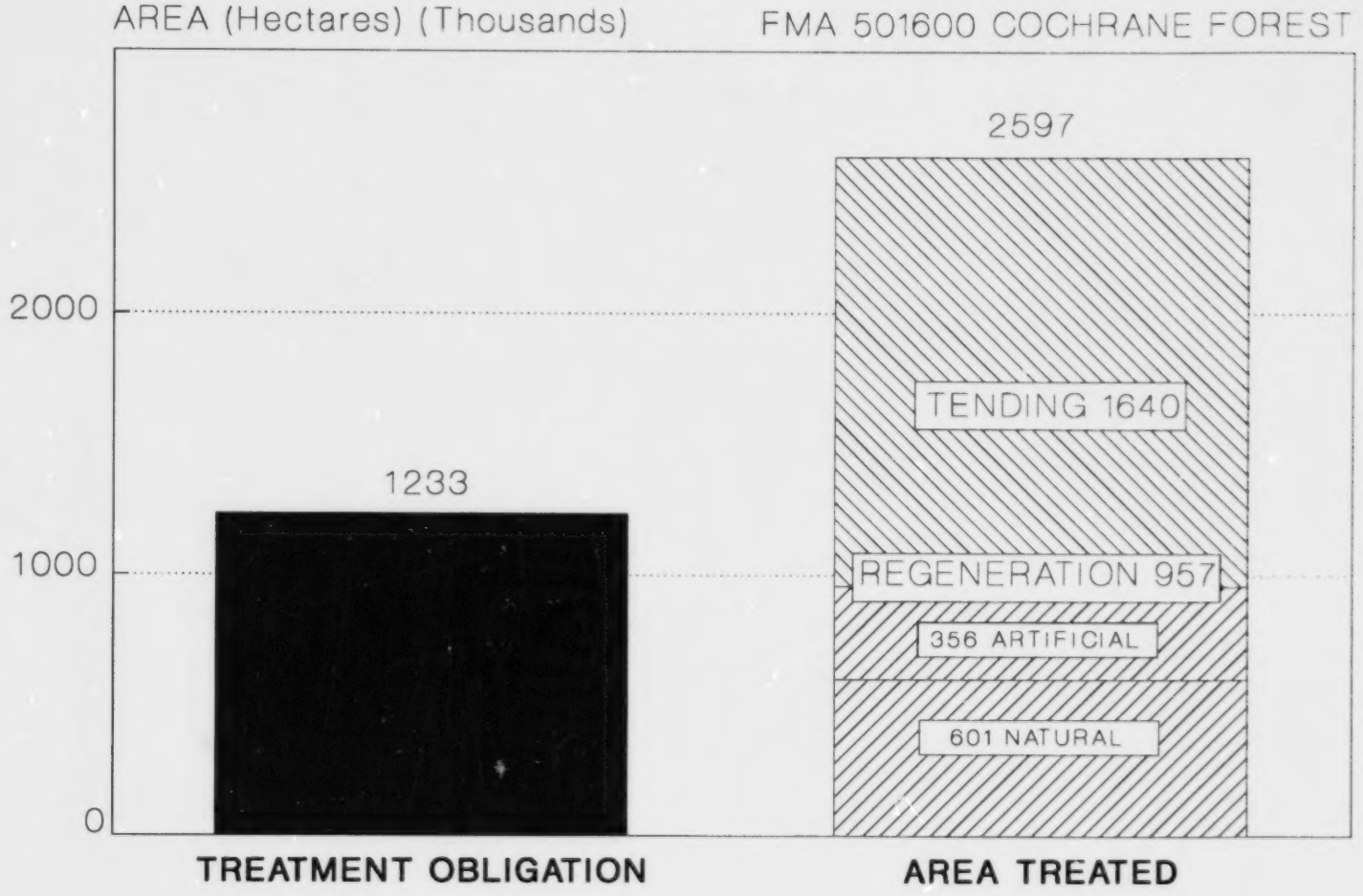


FIGURE 3: COMPARISON OF NSR TREATMENT OBLIGATION AND NSR TREATMENT, 1983-88



Although 90.6% of the planned roads for the five year term were constructed, only 67.0% of the planned maintenance was completed under FMA funding due in part to the shortfall in FMA funds and the company decision to apply available funds to new road construction and road reconstruction in lieu of maintenance. The remaining maintenance requirements were conducted by the Company at their own expense.

Prior to the signing of the FMA, 50.4 kilometres of road existed on the agreement area. Since the FMA came into force 69.9 kilometres of primary and 46.8 kilometres of secondary road have been constructed or reconstructed.

2.6. COMPANY RECORDS

Silvicultural records begin with a mylar map of the FMA area. At the first instance of Company activity (e.g. cutting mature stands, site preparation or tending NSR sections), the area is delineated on the FMA mylar and a six digit project number assigned. The number accommodates subsequent tracking of the area for succeeding treatments and also indicates which treatment have been applied.

Details concerning the area and its treatment (including such items as an aerial photograph, soil type, topography, disturbance, site preparation, planting stock, planting and stock handling, seeding, competition, previous treatment and post treatment) are currently retained in binders. Data are also being entered on Company computers but the system is not yet operational.

Three tending and two site preparation areas were measured from maps with an electronic graphics calculator and compared with reported figures. All were found to be acceptable.

Although maps have been forwarded to the Company detailing work carried out by the Ministry on the agreement area during and prior to the Ministry phase out period, the corresponding data had not at the time of review been forwarded to the Company. The review committee concluded that the silvicultural records were accurate and carefully maintained.

RECOMMENDATION: That the Ministry provide the Company with all pertinent silvicultural data and records of work conducted by the Ministry on the FMA area.

It was noted that the Company has pursued on their own initiative a number of record keeping and information gathering developments. In particular, the Company is initiating the use of colour infra-red and colour aerial photography in their regeneration assessment program. In addition, the Company has developed a computer program for monitoring on-going planting projects on a daily basis. This system allows Company managers to pinpoint and quickly correct problems with planting quality. The Company is commended for these and other initiatives.

2.7. ANNUAL REPORTS

Paragraph 38 of the agreement requires that the agreement holder prepare an annual report in accordance with the Forest Management Manual in respect of the operations conducted on the agreement area in the year preceded.

These reports were submitted but no documentation was available in either Company or Ministry records to substantiate submission dates. However, Company employees and the DCR agree that they cannot recall any report being late or returned for inaccuracies. Company personnel reconciled maps and tables with MNR records before annual reports were written.

The accuracy of the annual reports was checked by compiling road length totals from invoices for 1983-1984 and 1987-1988 and comparing them with totals in the Annual Reports. There were no errors or omissions and the records were found to be accurate. Apart from the recording of submission dates, a commendably good job of annual reporting has been maintained.

RECOMMENDATION: That both the Company and the Ministry take steps to ensure documentation of submission dates for annual reports so that performance of the agreement holder can be evaluated.

2.8. INTEGRATION WITH OTHER FOREST USERS

Section 9 of the ground rules, entitled Modified Management Areas[1], details how areas managed to meet objectives other than or in addition to wood fibre production were to be identified during the preparation of the five year operating plan for the period. It was the responsibility of the Ministry to identify these areas and develop prescriptions. The Company was to implement the Ministry's prescriptions.

Few problems with other users occurred on the **COCHRANE FMA**. Only one tourist outfitter needed to be consulted and he found the additional access to be a benefit. Attempts were made to accommodate cottager requirements for access. In one area, two roads were not joined to accommodate cottagers concerns with wood haul traffic.

Prior to the FMA, cutovers in this area exceeded in size the current moose habitat guidelines, but, since the implementation of the agreement, clearcut sizes have been relatively small. As a result few modifications to normal operations have been necessary for moose and other wildlife habitat requirements. A moose concentration area in Aurora Township was identified for special treatment and a heronry in Aurora Township has been located.

Modified Management Areas have been identified to protect warm water lakes and streams.

The Company, thus far, has elected to treat these MMAs as no cut areas. This prescription is designed to protect the fish and wildlife values of the area but has led to some problems with extensive blowdown of remaining trees. Blowdowns prevent the use of the reserve for moose, hinder access, fill the water with debris and compromises the aesthetic values.

RECOMMENDATION: That the Ministry and Company investigate the blowdown problem of over-mature stands in no cut areas and develop prescriptions that will better address the needs of identified timber and other use values.

3. MAINTENANCE OF PRODUCTIVITY

Table 2 shows the maximum allowable depletion which was calculated for the **COCHRANE FOREST** at the beginning of the five year term under review. Harvesting and other forest depletions fell within the obligations of the agreement for all working groups.

Of the total area regenerated by artifical or natural means over 40% of this was done on NSR lands. Regeneration of recent cutover was low (approximately 38%) due to the concentration on returning prime site NSR lands back into production. Also, regeneration operations may take place during the three year period after the harvest and will therefore be included in future summaries. The next five year term should see an increase in regeneration activities on recent cutover.

To further address long term productivity, the Company has entered into a number of cooperative tree improvement projects with the Ministry and other companies in the area. Seed orchards designed to produce superior tree seed for future planting stock, linked to a prime-site strategy, have been established.

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[1] Modified Management Areas (MMAs) have since been replaced by the "Area of Concern" planning process.

Table 2 **COCHRANE FOREST FMA 501600**

Comparison of the 1983-1988 Maximum Allowable Depletion, Total Depletion (MAD), Harvest and Regeneration Activities and the 1988-1993 Maximum Allowable Depletion.

Working Group or Forest Unit	1983-88 Maximum Allowable Depletion	Total Depletion	Harvest Cut	Regeneration Total	1988-93 Maximum Allowable Depletion (1)
Spruce X,1,2(2)	2,398	2,636	2,541		5,733
Spruce 3	321	227	226		456
Balsam Fir	493	127	94		886
Poplar X,1,2	1,057	544	497	N/A	1,468
Poplar 3	147	41	39		193
White Birch	0	0	0		525
Protection Forest	0	36	36		0
NSR	0	171	166		0
TOTAL	4,416	3,782	3,599	2,318(3)	9,261

(1) This column presents the Driftwood Forest 1988-1993 MAD. Driftwood Forest is the former Cochrane and Gardiner Forest. The data are not directly comparable with the 1983-88 MAD for the Cochrane Forest.

(2) X,1,2,3 refers to site class - a measure of site productivity with X being the most productive and 3 the least.

(3) Ministry phase-out operations included in regenertaion total

4. COMPANY CONCERNS

The Company was provided the opportunity to express any concerns that it might have with regard to FMA 501600 or with regard to the Ministry's administration of the agreement. Senior management of the Quebec and Ontario Paper Company, though generally satisfied with the workings of the FMA, expressed concerns with:

- the continuing reduction of the level of FMA funding for roads and the late notification of approval.
- the constraint of the silvicultural programs on Crown Management Units (CMU) and the resulting future pressure expected on FMAs as the CMU wood fibre base diminishes.
- the minimum standard of black spruce container stock. The minimum standard should be increased. This may result in the elimination of the small diameter 408 paper pot, as the present standard is unacceptable.
- the cap on nursery stock production. It is considered to be preventing competition and entry of good new quality growers.
- the continuing high percentage of reserves (Modified Management Areas) placed without a good forest management reason for their existence, especially in remote areas. Public input, while necessary for good multiple use planning, often takes precedence over correct forest management.
- the frequent changing of Designated Crown Representatives which causes many unnecessary problems.
- the possible allocations of perceived surplus timber for 20 years by MNR to other companies

5. CONCLUSIONS AND RECOMMENDATIONS

The review committee was satisfied that the obligations of the Company under the agreement have been satisfactorily performed by the Company during the five year term under review, but notes that the Company and the Ministry have not agreed to new ground rules for the second five year term. The committee was impressed with the organization and intensity of silvicultural effort by the Company and the commitment to the success of regenerating the **COCHRANE FOREST**.

RECOMMENDATION NO. 1: That the Minister extend the remaining period of FMA 501600 by a further term of five consecutive years to March 31st, 2008, pending agreement of new ground rules by the Company and the Ministry.[2]

RECOMMENDATION NO. 2: That the Company and the Ministry jointly review the treatable status of lands cut over during this five year term for which Table 1 of the ground rules specifies treatment but which have received no treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1989-1990 annual report.

RECOMMENDATION NO. 3: That Company and Ministry officials take immediate action to resolve differences in the negotiations for new ground rules.[3]

RECOMMENDATION NO. 4: That the Minister recognize the naturally regenerated 601 hectares as part of the NSR obligations and the Company be credited with 2,597 ha of NSR lands treated.

RECOMMENDATION NO. 5: That the Ministry provide the Company with all pertinent silvicultural data and records of work conducted by the Ministry on the FMA area.

RECOMMENDATION NO. 6: That both the Company and the Ministry take steps to ensure documentation of submission dates for annual reports so that performance of the agreement holder can be evaluated.

RECOMMENDATION NO. 7: That the Ministry and Company investigate the blowdown problem of over mature stands in no-cut areas and develop a prescription that will better address the needs of identified timber and other use values.

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[2] Ground rules have subsequently been agreed to.
[3] Ground rules have subsequently been agreed to.

FIVE-YEAR REVIEW
QUEBEC AND ONTARIO PAPER COMPANY LIMITED
(FORMERLY Q.N.S. PAPER COMPANY LIMITED, ONTARIO PAPER COMPANY DIVISION)

GARDINER FOREST
AGREEMENT 501700
1983 - 1988

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1. INTRODUCTION

1.1 PURPOSE OF THE REVIEW

The Minister of Natural Resources and Q.N.S. Paper Co. Ltd., Ontario Paper Company Division (now known as the Quebec and Ontario Paper Co. Ltd.) signed a Forest Management Agreement (FMA) on the **GARDINER FOREST** northwest of Cochrane, on June 20th, 1983. The purpose of this agreement was to provide for a continuous supply of forest products to the Company's mill at Thorold and to ensure that the **GARDINER FOREST** is harvested and regenerated to produce successive crops of timber on a sustained yield basis.

This review of the first five consecutive years of the agreement was conducted on the **GARDINER FOREST** to determine whether the obligations of the Company under the agreement have been satisfactorily performed and to recommend to the Minister of Natural Resources whether the remaining period of the agreement should be extended for a further term of five years.

1.2 THE REVIEW COMMITTEE

The review was carried out by a committee of three, engaged by the Ministry of Natural Resources for this purpose. The three committee members were:

- Mr. G.W. Bell, R.P.F., Vice-President Woodlands (Retired), Spruce Falls Power and Paper Company Limited, Committee Chairman,
- Mr. R.A. Baxter, Director of Operations, Northern Ontario (Retired), Ministry of Natural Resources,
- Dr. H.G. Cumming, Professor, Fish and Wildlife Management, School of Forestry, Lakehead University.

1.3 TASKS OF THE REVIEW COMMITTEE

The review committee's assignment was to undertake a fair and objective review of Quebec and Ontario Paper Company's performance on the **GARDINER FOREST** during its first five-year term vis-a-vis its obligations under Forest Management Agreement #501700 and to make recommendations to the Minister of Natural Resources on the extension of the agreement's term according to the "Evergreen" section of the agreement (i.e. Section 15, paragraph 33)

The review was conducted by:

- examining the management, operating and annual plans, and the annual reports prepared by the Company with regard to their submission dates and their acceptability to the Ministry,
- inspecting the depletion, silvicultural and access road records for adequacy and for conformity with the management plans and the ground rules of the agreement,
- comparing the levels of harvest and treatment of not satisfactorily regenerated (NSR) lands outlined in the annual reports with the levels required by provisions of the agreement.
- selecting and field inspecting harvest cuts, silvicultural projects and road construction typical of the techniques employed on the forest for conformity with the agreement holder's records and for field application of the ground rules.
- determining the degree to which other forest users and other forest values are accommodated in management planning and in field operations, and
- meeting with Company and Ministry district staff to identify problem areas and agreement concerns on the part of either party.

2. PROCEDURES AND FINDINGS

The **COCHRANE** and **GARDINER FORESTS**, FMAs 501600 and 501700, have been amalgamated commencing April 1st, 1988 into the Driftwood Forest. Data for the **COCHRANE** and **GARDINER FORESTS** for the next five-year term (i.e. 1988-93) refer to the **DRIFTWOOD FOREST** FMA.

2.1 MANAGEMENT PLANNING

2.1.1 THE PREPARATION OF PLANS

Paragraph 6(1), 10(1), 11(1) and 15(1) of the agreement require the Company to prepare management and operating plans and a series of annual plans. These plans must be prepared and submitted according to the time frames specified in the agreement and according to the manual that has been approved by the Minister for this purpose.

The forest management agreement was signed on June 20th, 1983 and the management plan was due twelve months later. Extensions to this date were granted by the Ministry until October 15th, 1984. The plan was submitted prior to this date.

Alterations were required and the plan was returned to the Company. The final plan was submitted by the Company April 25th, 1985 and approved October 29th, 1985.

The operating plan for the 1983 to 1988 period was due December 20th, 1983. Extensions were granted by the Ministry until July 2nd, 1984. The plan was submitted July 12th, 1984. Alterations were requested by the Ministry and the plan was resubmitted and received final approval of the Ministry on August 1st, 1985.

The extended time required in resubmitting the management and operating plans was the result of the workload placed on both the Company and Ministry staff in reviewing and revising the plans as well as the time required to hold public consultations.

The extensions requested were mainly due to the workload placed on the forestry staff of the Company's Timmins office in preparing three management plans, three operating plans and three annual plans in the same period of time (i.e. for the **GARDINER, COCHRANE** and **TIMMINS FMAs**). Some delay resulted from the inability of the Company's Thorold office to supply long term mill requirements for the Thorold mill due to start-up problems encountered following its modernization.

Prior to the signing of the agreement, the annual plan for the first year of the period under review was prepared under Crown Timber Licenses 384300 and 384400. The annual plans for the remaining four years were submitted by the due dates, reviewed by the Ministry and returned to the Company for alterations. The altered plans were submitted on or before the required due dates.

The Company has prepared a timber management plan for the second five-year term for the new Driftwood agreement (i.e. combined Cochrane and Gardiner FMAs) and in accordance with the new Timber Management Planning Manual For Crown Lands In Ontario. This new plan was submitted by the Company by the due date and was approved by the Ministry on March 9th, 1988 prior to the commencement of operations.

In conclusion, the Company was found to be late in meeting its management planning obligations for the 20-year management plan and the five-year operating plan but did so with concurrence of the Ministry. The Company's obligation for the remaining plans were met.

2.1.2 PLAN IMPLEMENTATION

The agreement requires that the Company conduct its operations in accordance with the approved management, operating and annual plans. The accomplishments of the Company in silvicultural operations and road construction are summarized in Table 1.

The review committee examined the harvest cut and road construction records of the company and found them to be generally in conformity with the areas allocated for harvest and the road locations specified in the management documents. Four minor deviations and one major deviation from the approved cutting areas were recorded, all of which resulted in charges under the Crown Timber Act. The major deviation involved the cutting of standing timber across the boundary of their agreement area. Amendments to the plans were requested and approved both in harvest allocations and road locations. The level of harvest and access construction during the five years was slightly lower than planned while regeneration, site preparation and tending were higher as portrayed in Figure 1.

TABLE 1
Summary of the Company's forest operations at Ministry expense for 1983-1988.

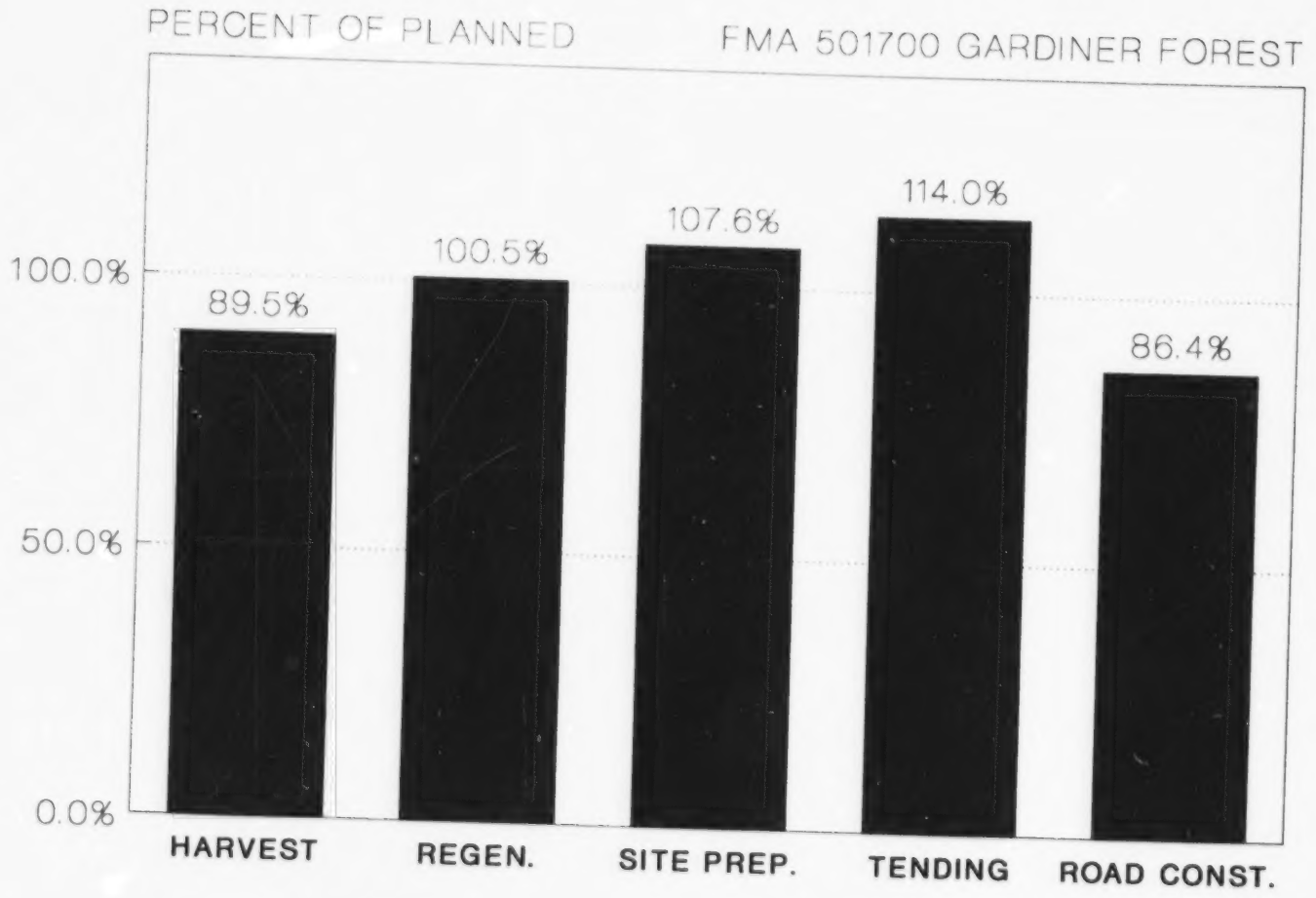
FMA EXPENDITURE AND ACCOMPLISHMENT REPORT FOR THE FIVE-YEAR TERM 1983-88

FMA 501700 GARDINER FOREST QUEBEC AND ONTARIO PAPER COMPANY

ACTIVITY	HECTARES	DOLLARS
HARVEST CUT	3,548	
NATURAL REGENERATION	931	
ARTIFICIAL REGENERATION		
PLANTING BAREROOT	878	
PLANTING CONTAINER	1,187	
SEEDING DIRECT	0	
SEEDING WITH PREPARATION	0	
TOTAL ARTIFICIAL	2,065	
TOTAL REGENERATION	2,996	
TENDING		
CHEMICAL CLEANING/AERIAL	2,736	
CHEMICAL CLEANING/GROUND	0	
OTHER TENDING	0	
TOTAL TENDING	2,736	
SITE PREPARATION		
MECHANICAL	2,801	
CHEMICAL	280	
TOTAL SITE PREPARATION	3,081	
MNR SILVICULTURE PAYMENTS		$1,931,152.00
ROAD CONSTRUCTION	**KILOMETRES**	**DOLLARS**
PRIMARY	26.9	
SECONDARY	124.7	
TOTAL CONSTRUCTION	151.6	$3,516,283.00
ROAD MAINTENANCE	209.6	$ 94,180.00
MNR TOTAL ROAD PAYMENTS		$3,610,463.00
TOTAL PAYMENTS		$5,541,615.00

NOTE: This table represents activities carried out by the Company, and the associated costs to MNR. As part of the MNR obligation under the Agreement, Forest management activities were also conducted by MNR, at additional expense.

FIGURE 1: COMPARISON OF OPERATING PLAN vs ACTUAL



2.2 THE GROUND RULES

2.2.1 KNOWLEDGE AND FAMILIARITY WITH THE GROUND RULES AND THE AGREEMENT

Based on discussions held with the Company, both in the office and field, it was apparent to the review committee that the Company staff were knowledgeable and familiar with the provisions of the ground rules and the agreement.

2.2.2 CONFORMITY OF HARVEST AND SILVICULTURAL OPERATIONS WITH THE GROUND RULES

The committee's examination of silvicultural records, its field inspections and its discussions with the designated Crown representative (DCR) all confirmed that harvesting and silvicultural operations have been conducted in accordance with the ground rules.

The committee notes that the ground rules permit the classification of non-treatable sites by mutual agreement. Any area may be classed as non-treatable where extremes in topography, shallowness of soil, excessive rock, poor drainage or inaccessibility make it uneconomic or impractical to treat. Non-treatable areas either allocated for harvesting in the operating plan or depleted for other reasons during the operating plan period were to be included in the depletion section of the annual report. To date, the only areas that have been declared as non-treatable on the **GARDINER FOREST** have been road right-of-ways, despite the fact that over 3,500 hectares (ha) have been harvested.

The review committee is concerned that non-treatable areas may have been overlooked by both parties and that a failure to classify them will result in disputed retreatment obligations.

RECOMMENDATION: That the Company and the Ministry jointly review the treatable status of lands cut over during this five-year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed upon to be non-treatable in the 1989-90 annual report.

2.2.3 CONFORMITY OF INVOICING PRACTICES WITH THE GROUND RULES

The invoicing procedures of the Company were found to be in conformity with those specified in the ground rules. Any differences in hectares treated, number of trees planted or kilometres of road constructed or maintained were reconciled between the Company representative and the DCR before submission of invoices.

2.2.4 THE PREPARATION OF NEW GROUND RULES

The forest management agreement with the Company requires both parties to commence the preparation of new ground rules for the next five-year term at least eight months prior to the expiry of the old ground rules, and to agree upon these new ground rules on or before the expiry date of March 31st, 1988. The committee notes that the preparation of the new ground rules commenced prior to the required date but at the time of the review, June 20th, 1988, the ground rules had not been agreed to by either party. Under paragraphs 14(2) and 33(a) (b) of the Agreement, ground rules for the next term are to be agreed to before extension of the agreement for a further five-year term.

RECOMMENDATION: That Company and Ministry officials take immediate action to resolve differences in the negotiations for new ground rules.[1]

2.3 HARVEST LEVELS, ALLOWABLE DEPLETION, YIELDS AND WOOD FLOWS

According to paragraph 20(1) of the agreement, the Company has agreed to maintain its harvest on the **GARDINER FOREST** at a level between 90% and 110% of the calculated allowable depletion (allowable cut) for each working group. The Company may request the Minister to authorize variations to those levels specified in the agreement.

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[1] Ground rules have subsequently been agreed to.

Paragraph 20(3) and 20(4) of the agreement provide for either a remedy or liquidated damages in the event of an overcut or undercut, respectively, on the area under agreement. The agreement holder may avoid liquidated damages through the declaration of timber surplus to its needs in an approved management plan, however, liquidated damages do not apply in the first five year term of a forest management agreement.

The Company met its minimum 90% harvest requirements in all working groups with the exception of the birch and spruce 1 working groups. For the (declared) surplus areas, markets developed for poplar which enabled 9.7% of the surplus to be harvested. During the term, Cochrane Enterprises Limited was given first-right-of-refusal for all poplar veneer logs. Figure 2 shows a comparison of the actual cut for the five-year term with the allowable depletion for all working groups combined.

For the five-year term, actual conifer yields per hectare were extremely close to the yields predicted, as well as the area harvested. Yields predicted for the 1988-93 operating period indicate similar yields.

The review committee commends the Company for achieving almost ninety percent of their forecasted harvest of the **GARDINER FOREST**.

2.4 NSR OBLIGATIONS

Under provisions of the agreement, the Company has an obligation to reforest NSR lands at the rate of 5% of class 2 and 3 NSR lands annually. This amounts to a total of 1,707 hectares for the five-year term under review and 6,828 hectares for the entire 20-year period of the agreement.

The Company has treated 3,386 hectares of NSR land thereby exceeding their obligations (Figure 3). In addition, a further 753 hectares regenerated naturally for a total treatment of 4,139 hectares. The naturally regenerated lands are not normally credited, but in this case, they were part of the NSR surveyed lands and failure to credit these hectares now would result in the Company not having sufficient NSR lands to treat economically in order to meet its 20-year obligation.

RECOMMENDATION: That the Minister recognize the naturally regenerated 753 hectares as part of the NSR obligations, and the Company be credited with 4,139 ha. of NSR lands treated.

2.5 ROAD CONSTRUCTION

Paragraph 31 of the agreement provides for the Minister to pay subject to a maximum amount per kilometre for the construction or reconstruction of forest access roads on the agreement area. To be eligible for payment, roads must be detailed in an approved annual plan and constructed according to the standards specified in Schedule "E" of the agreement.

The terrain covered by the **GARDINER FOREST** is flat, with soils composed of deep organic on clay: therefore, few obstacles to road construction are encountered, though gravel is scarce. As a result, relatively few variations were found between planned routes and actual routes.

In this FMA, roads are laid out by the Company and built by contractors. Company personnel inspect roads before advancing sums to contractors, then jointly with a MNR field technician prior to invoicing MNR. The Company generally constructs roads to a higher standard than the specifications outlined in the ground rules of the agreement.

Due to timing of gravel application some of the roads constructed in the early years of the FMA fell below standard and had to be repaired by the company at their cost. The problems with timing of gravel application have now been resolved.

Two sections of road were measured for comparison with the invoices; one tallied exactly and one was out only slightly. Any slight discrepancy is not considered important because actual billing is based on field-measured distances.

FIGURE 2: COMPARISON OF ALLOWABLE DEPLETION AND HARVEST

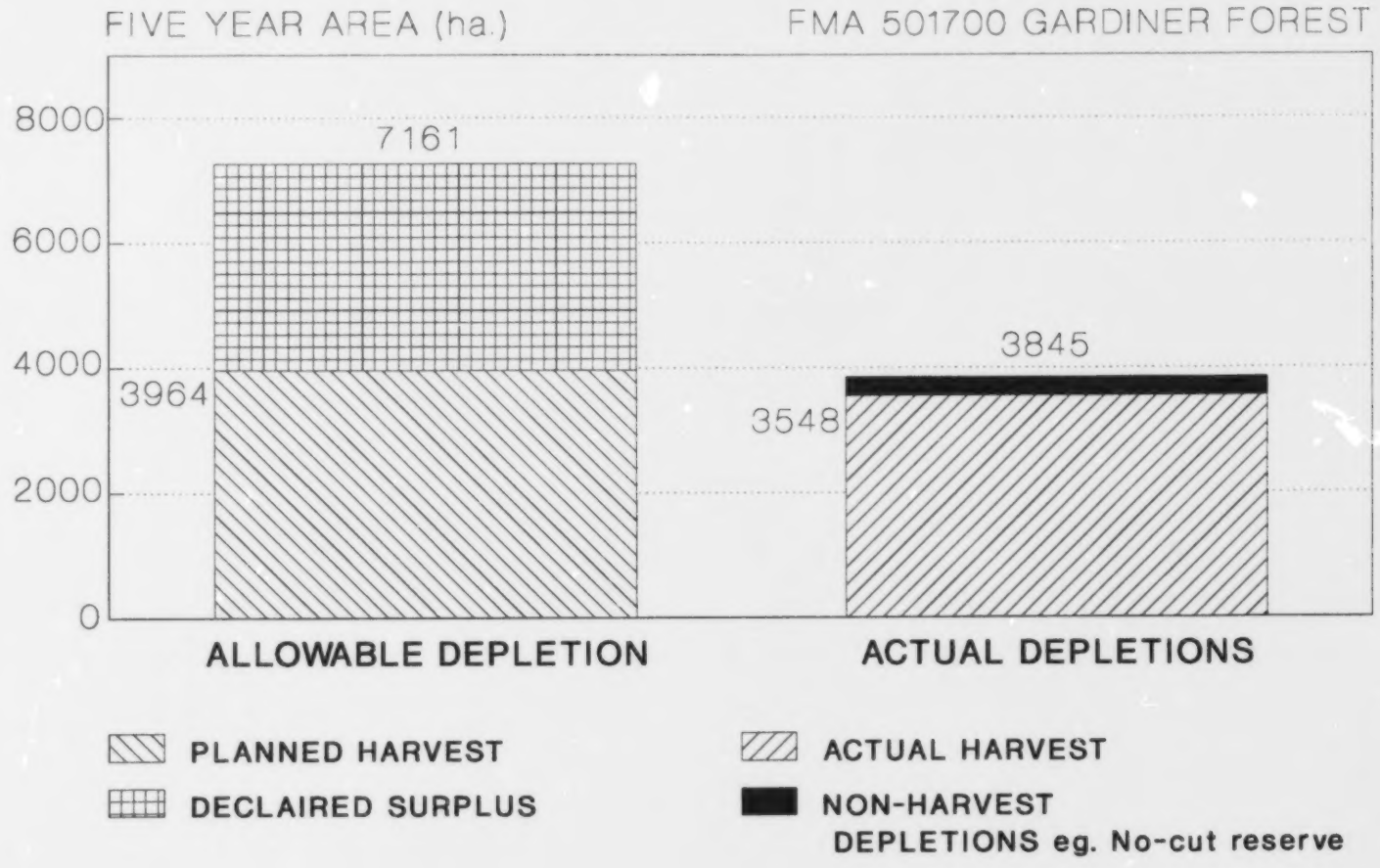
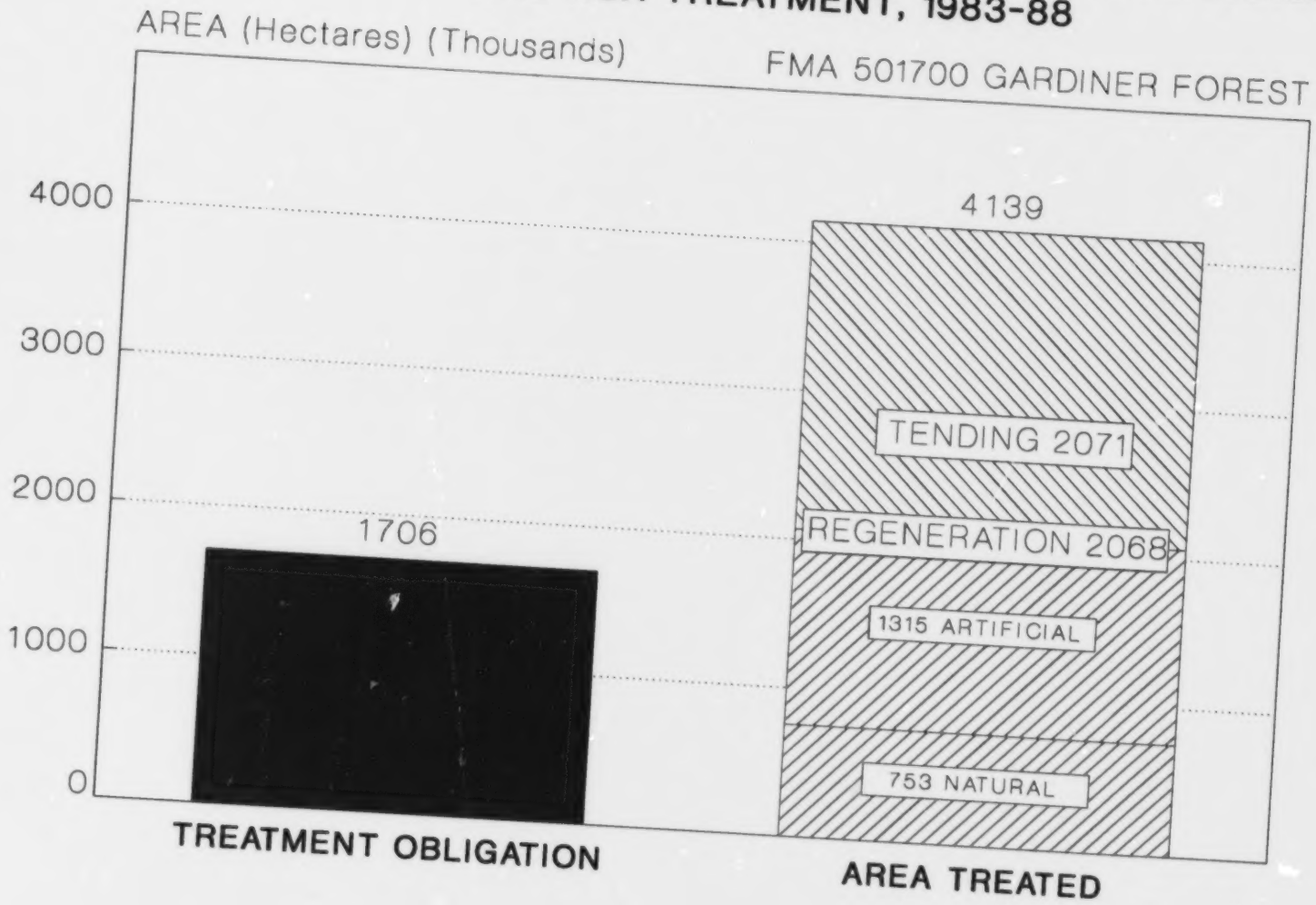


FIGURE 3: COMPARISON OF NSR TREATMENT OBLIGATION AND NSR TREATMENT, 1983-88



Traditionally the cutting in this FMA has been a winter operation not requiring major haul roads. On this account no primary roads were built during 1983-87. However, at that time a fibre exchange agreement was entered into with a Cochrane-based company that required year round supplies. Therefore in 1987-88 all road funds were shifted from secondary construction and maintenance to the construction of primary roads (Operating Plan Table 5.1). Overall 86.4% of the roads projected in the Operating Plan were built, with the shortfall being due to lack of FMA funds and the decisions to construct the more costly primary roads to accommodate the year round delivery required by the Cochrane based company. The Company continued to maintain the roads to an acceptable standard.

The roads were located to access difficult-to-reach 130+ year old overmature stands and to provide access during summer for silvicultural purposes. Prior to signing the agreement, 52 km of primary and secondary roads existed in the **GARDINER FMA** area. During the first five years of the agreement, 26.9 km of primary road and 70.4 km of secondary road were built or reconstructed. In addition 54.3 km of tertiary existing roads were upgraded to secondary standards and 209.6 km of maintenance were carried out.

2.6 COMPANY RECORDS

Silvicultural records are maintained on mylar maps with details concerning the area and its treatment (including such items as an aerial photograph, soil type, topography, disturbance, site preparation, planting stock, planting and stock handling, seedling, competition, previous treatment and post treatment) contained in accompanying binders. Information about any treatment area is tracked by a six digit project number (assigned at first activity, such as cutting or site preparation) that accommodates subdivision of the area and indicates treatments that have been applied. Data are being entered on Company computers but the computer system is not yet operational. One planting area was measured on a map from the Company's silvicultural records using an electronic graphics calculator and the result agreed with that in the record. Thus the silvicultural records appeared to be accurate and carefully maintained. Depletion records were also checked and proved to be accurate and well maintained.

It was noted that the Company has pursued, on their own initiative, a number of record keeping and information gathering developments. In particular, the Company is initiating the use of colour infrared and colour aerial photography in their regeneration assessment program.

In addition, the Company has developed a computer program for monitoring on-going planting projects on a daily basis. This system allows Company managers to pinpoint and quickly correct problems with planting quality. The Company is commended for these and other initiatives.

2.7 ANNUAL REPORTS

Paragraph 38 of the agreement requires that the agreement holder prepare an annual report in accordance with the Forest Management Manual in respect of the operations conducted on the agreement area in the year preceded.

These reports were submitted but no documentation was available either in Company or Ministry records to substantiate submission dates. Company employees and the DCR agree that they cannot recall any report being late or returned for inaccuracies. Company personnel reconciled maps and tables with MNR records before annual reports were written.

The accuracy of the Annual Reports was checked. An invoice error was found in the first year when one invoice was duplicated. This was corrected later and no further errors were found.

Apart from the dating of reports and the above double invoicing, a commendably good job of annual reporting has been sustained.

RECOMMENDATION: That both the Company and the Ministry take steps to ensure documentation of submission dates for annual reports so that performance of the agreement holder can be evaluated.

2.8 INTEGRATION WITH OTHER FOREST USERS

Section 9 of the ground rules, entitled Modified Management Areas[2], details areas which are to be managed to meet objectives other than or in addition to wood fibre production were to be identified during the production of the five-year operating plan for the period.

It was the responsibility of the Ministry to identify these areas and develop prescriptions to accommodate other forest users or uses. The Company was to implement the Ministry's prescriptions.

On the **GARDINER FOREST** compliance with this section of the FMA was not difficult. Only two wilderness outfitters needed to be accommodated. The Company has modified the timing of summer cutting and the pattern of cutting to accommodate these outfitters. A road was located in the Operating Plan so as to avoid the location of one operator and a bridge was re-located from the original plan so that it could not be seen from his lodge. Some problems remain as a new owner still considers the road to be too close and a request for a gate was turned down by Cochrane District because of public opposition.

Cottagers are mainly interested in access provided by logging roads and where and when it will arrive. The Company tries to leave plenty of room around the cottages.

Cut areas in this FMA are generally small, presenting relatively few problems for moose habitat concerns. No birds are known to require nest site protection.

No cold water fish need to have spawning areas protected. Warm water shoreline reserves and aquatic feeding area reserves for moose are accepted by the Company as necessary. After a trial modified cut in one reserve went awry due to poor field communication, the Company has elected to treat MMAs as no-cut areas. However, some concern was expressed about the excessive blowdown that resulted in many of them.

3. MAINTENANCE OF PRODUCTIVITY

Table 2 shows the maximum allowable depletion which was calculated for the **GARDINER FOREST** at the beginning of the five-year term under review. It indicates that the level of harvest and other forest depletions was well within the bounds of the maximum allowed under sustained yield management for all working groups and extremely close to the planned harvest projections.

Of the total regenerated area (4,064 ha), 51% of the regeneration was on old cutover NSR lands and the remainder was done on recent cutover. Therefore 56% of the recent cutover was regenerated during 1983-88. The percentage of recent cutover regeneration is expected to increase in future years as during this period the Company made a special effort to concentrate on regenerating prime site NSR lands. No areas were assessed as free-to-grow but many Company and Ministry treated areas will become eligible in the next five-year term.

To further address long term productivity, the Company has entered into a number of cooperative tree improvement projects with the Ministry and other companies in the area. Seed orchards designed to produce superior tree seed for future planting stock linked to a prime-site strategy have been established.

The review committee was impressed with the organization and silvicultural practices of the Company and commend the Company for the prompt action taken in regenerating the harvested area.

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[2] Modified Management Areas have since been replaced by the "Area of Concern" planning process.

Table 2 **GARDINER FOREST FMA 501700**

Comparison of the 1983-1988 Maximum Allowable Depletion (MAD), Total Depletion, Harvest and Regeneration Activities and the 1988-1993 Maximum Allowable Depletion.

Working Group/or Forest Unit	1983-88 Maximum Allowable Depletion	Total Depletion	Harvest Cut	Regeneration Total	1988-93 Maximum Allowable Depletion (1)
Spruce x.1.2 (2)	4,472	3,273	3,070		5,733
Spruce 3	170	92	84		456
Balsam Fir	818	48	39		886
Poplar x,1,2	843	111	95		1,468
Poplar 3	138	0	0		193
Riparian Forest	720	243	182		525
Protection Forest	0	35	35		0
NSR	0	43	43		0
Total	7,161	3,845	3,548	4,064(3)	9,261

(1) his column presents the Driftwood Forest 1988-1993 MAD. Driftwood Forest is the former Cochrane and Gardiner Forest. The data are not directly comparable with the 1983-88 MAD for the Gardiner Forest.

(2) X, 1, 2, 3 refer to site class - a measure of site productivity with X being the most productive and 3 the least.

(3) Ministry phase-out operations included in regeneration total

4. COMPANY CONCERNS

The Company was provided the opportunity to express any concerns that it might have with regard to FMA 501700 or with regard to the Ministry's administration of the agreement. Senior management of the Quebec and Ontario Paper Company, though generally satisfied with the workings of the FMA, expressed concerns with:

- the continuing reduction of the level of FMA funding for roads and the late notification of approval.
- the constraint of the silvicultural programs on Crown Management Units (CMU) and the resulting future pressure expected on FMAs as the CMU wood fibre base diminishes.
- the minimum standard of black spruce container stock. The minimum standard should be increased. This may result in the elimination of the small diameter 408 paper pot as the present standard is unacceptable.
- the cap on nursery stock production. It is considered to be preventing competition and entry of good new quality growers.
- the continuing high percentage of reserves in Modified Management Areas without a good forest management reason for their existence, especially in remote areas. Public input, while necessary for good multiple use planning, often takes precedence over correct forest management.
- the frequent changing of designated Crown Representatives which causes many unnecessary problems.
- the possible allocation of perceived surplus timber for 20 years by MNR to other companies.

5. CONCLUSIONS AND RECOMMENDATIONS

The review committee was satisfied that the obligations of the Company under the agreement have been satisfactorily performed by the Company during the five-year term under review, but notes that the Company and the Ministry have not agreed to ground rules for the second five-year term. The committee was impressed with the organization and intensity of silvicultural effort by the Company and the commitment to the success of regenerating the Gardiner Forest.

RECOMMENDATION NO. 1: That the Minister extend the remaining period of FMA 501700 by a further term of five consecutive years to March 31st, 2008, pending agreement of new ground rules by the Company and the Ministry.[3]

RECOMMENDATION NO. 2: That the Company and the Ministry jointly review the treatable status of lands cut over during this five-year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed upon to be non-treatable in the 1989-90 annual report.

RECOMMENDATION NO. 3: That Company and Ministry officials take immediate action to resolve differences in the negotiations for new ground rules.[4]

RECOMMENDATION NO. 4: That the Minister recognize the naturally regenerated 753 hectares as part of the NSR obligations, and the Company be credited with 4,139 ha. of NSR lands treated.

RECOMMENDATION NO. 5: That both the Company and the Ministry take steps to ensure documentation of submission dates for annual reports so that performance of the agreement holder can be evaluated.

---

[3] Ground rules have subsequently been agreed to.
[4] Ground rules have subsequently been agreed to.

FIVE YEAR REVIEW

QUEBEC AND ONTARIO PAPER COMPANY LIMITED

(FORMERLY Q.N.S. PAPER COMPANY LIMITED, ONTARIO PAPER COMPANY DIVISION)

TIMMINS FOREST

AGREEMENT 501800

1983-1988

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1. INTRODUCTION

1.1. PURPOSE OF THE REVIEW

The Minister of Natural Resources and Q.N.S. Paper Company Ltd., Ontario Paper Company Division (now known as the Quebec and Ontario Paper Company Ltd.,) signed a Forest Management Agreement (FMA) on the **TIMMINS FOREST** southeast of Timmins, on June 20th, 1983. The purpose of this agreement was to provide for a continuous supply of forest products to the Company's mill at Thorold and to ensure that the **TIMMINS FOREST** is harvested and regenerated to produce successive crops of timber on a sustained yield basis.

This review of the first five consecutive years of the agreement was conducted on the **TIMMINS FOREST** to determine whether the obligations of the Company under the agreement have been satisfactorily performed and to recommend to the Minister of Natural Resources whether the remaining period of the agreement should be extended for a further term of five years.

1.2. THE REVIEW COMMITTEE

The review was carried out by a committee of three, engaged by the Ministry of Natural Resources for this purpose. The three committee members were:

- Mr. G. W. Bell, R.P.F., Vice-President Woodlands (Retired), Spruce Falls Power and Paper Company Limited, Committee Chairman
- Mr. R. A. Baxter, Director of Operations, Northern Ontario (Retired), Ministry of Natural Resources
- Dr. H. G. Cumming, Professor, Fish and Wildlife Management, School of Forestry, Lakehead University

1.3 TASKS OF THE REVIEW COMMITTEE

The review committee's assignment was to undertake a fair and objective review of Quebec and Ontario Paper Company's performance on the **TIMMINS FOREST** during its first five year term vis à vis its obligations under Forest Management Agreement #501800 and to make recommendations to the Minister of Natural Resources on the extension of the agreement's term according to the "Evergreen" section of the agreement (i.e., Section 15, paragraph 33).

The review was conducted by:

- examining the management, operating and annual plans, and the annual reports prepared by the Company with regard to their submission dates and their acceptability to the Ministry,
- inspecting the depletion, silvicultural and access road records for adequacy and for conformity with the management plans and the ground rules of the agreement,
- comparing the levels of harvest and treatment of not satisfactorily regenerated (NSR) lands outlined in the annual reports with the levels required by provisions of the agreement,
- selecting and field inspecting harvest cuts, silvicultural projects, and road construction typical of the techniques employed on the forest for conformity with the agreement holder's records and for field application of the ground rules,
- determining the degree to which other forest users and other forest values are accommodated in management planning and in field operations, and
- meeting with Company and Ministry district staff to identify problem areas and agreement concerns on the part of either party.

2. PROCEDURES AND FINDINGS

2.1 MANAGEMENT PLANNING

2.1.1 THE PREPARATION OF PLANS

Paragraph 6(1), 10(1), 11(1), and 15(1) of the agreement require the Company to prepare management and operating plans and a series of annual plans. These plans must be prepared and submitted according to the time frames specified in the agreement and according to the manual that has been approved by the Minister for this purpose.

The forest management agreement was signed on June 20th, 1983 and the management plan was due twelve months later. Extensions to this date were granted by the Ministry until October 1st, 1984. The first draft of the plan was submitted November 1st, 1984, one month late. The plan was returned to the Company for alterations and resubmitted to the Ministry on April 10th, 1985.

The operating plan for the 1983 to 1988 period was due December 20th, 1983. An extension of the due date was granted to February 20th, 1984. The plan was submitted July 6th, 1984. Alterations were requested by the Ministry and the plan was resubmitted January 10th, 1985. The plan received approval February 25th, 1985.

The extended time required in resubmitting the management and operating plans was the result of the workload placed on both the Company and Ministry staff in reviewing and revising the plans as well as the time required to hold public consultations.

The extensions requested were mainly due to the workload placed on the forestry staff of the Company's Timmins office in preparing three management plans, three operating plans and three annual plans in the same period of time (i.e., Timmins, Cochrane and Gardiner FMA's). However, some delay can be attributed to the inability of the Company's Thorold office to supply long term mill requirements for the Thorold mill due to start up problems encountered following its modernization.

For the first year of the agreement, operations were carried out under Licenses 080200, 384300 and 384400. The annual plans for the second, fourth and fifth years were submitted on time while the plan for the third year was submitted ten days past the due date.

The Company has prepared a management plan for the second five year term in accordance with the new **Timber Management Planning Manual for Crown Lands in Ontario**. This new plan was submitted prior to the due date and approved by the Minister on March 8th, 1988.

In conclusion, the Company was found to be late in meeting its management planning obligations during the early period of the agreement. In the latter period, plans were being submitted by the due date.

2.1.2 PLAN IMPLEMENTATION

The agreement requires that the Company conduct its operations in accordance with the approved management, operating and annual plans. The accomplishments of the Company in silvicultural operations and road construction are summarized in Table 1.

The review committee examined the harvest cut and road construction records of the Company and found them to be generally in conformity with the areas allocated for harvest and the road locations specified in the management documents. Two minor deviations from the approved cutting areas were recorded which resulted in charges under the Crown Timber Act. Other deviations detected were considered to be of an inconsequential nature.

Amendments to the five year operating plan and annual plans were requested in harvest allocations and road locations and were given approval by the Ministry. The levels of harvest, access road construction and tending during the five years were somewhat lower than planned, the levels of regeneration and site preparation exceeded planned levels as portrayed in Figure 1.

Reasons for the low level area of harvested are provided in Section 2.3. and for road construction in Section 2.5. of this report. The tending objective was not reached because the planned manual cleaning projects were not completed due to excessive costs and difficulties in managing the project in the field.

The aerial tending of recent cutover was less than 50% of that planned as the original estimate of the area requiring cleaning was in error.

TABLE 1
Summary of the Company's Forest Operations at Ministry Expense for 1983 - 1988

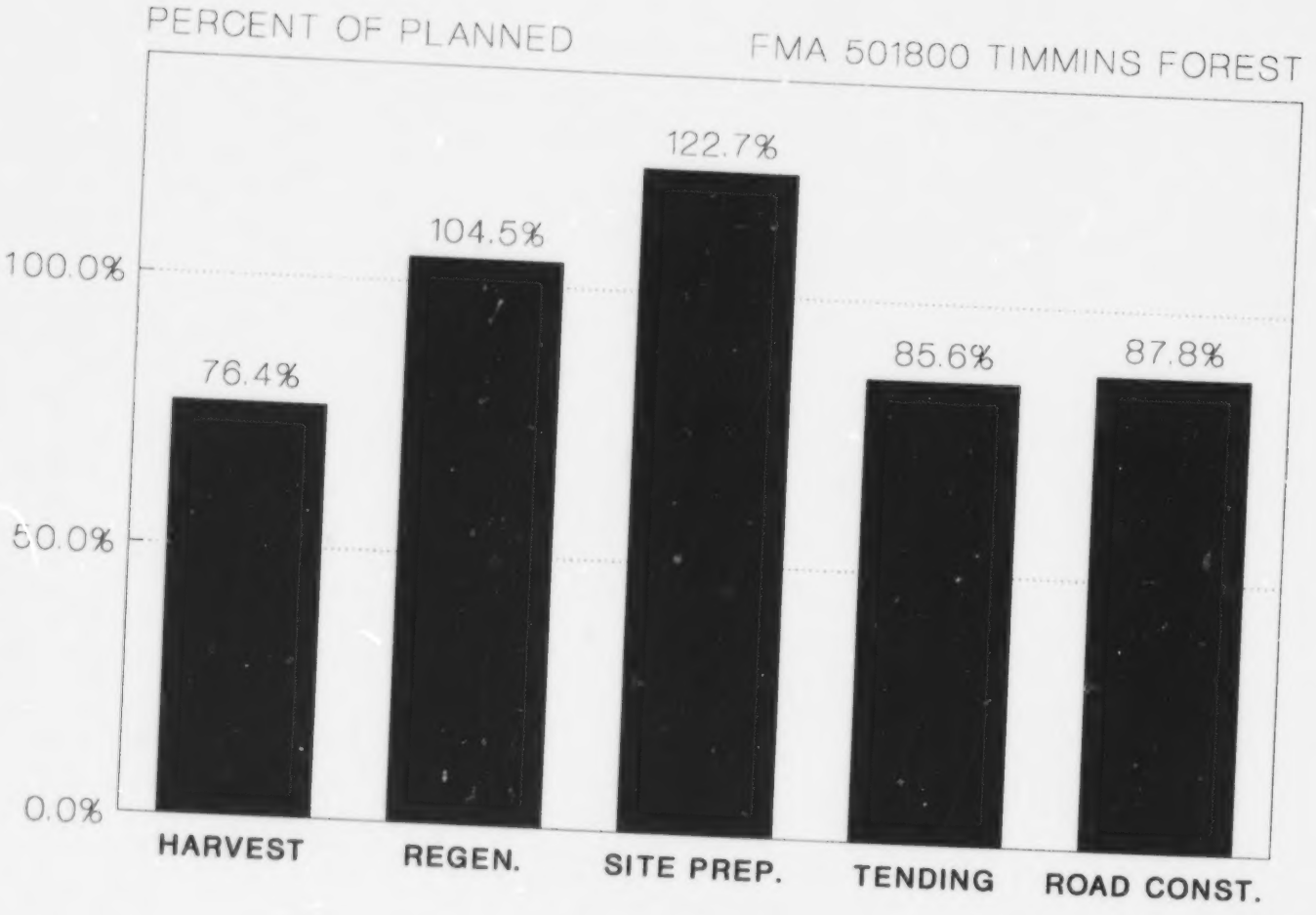
FMA EXPENDITURES AND ACCOMPLISHMENT REPORT FOR THE FIVE YEAR TERM 1983-88

FMA 501800 TIMMINS FOREST QUEBEC AND ONTARIO PAPER COMPANY

ACTIVITY	HECTARES	DOLLARS
HARVEST CUT	5,764	
NATURAL REGENERATION	1,987	
ARTIFICIAL REGENERATION		
PLANTING BAREROOT	1,240	
PLANTING CONTAINER	1,393	
SEEDING WITH SITE PREPARATION	0	
TOTAL ARTIFICIAL	2,633	
TOTAL REGENERATION	4,620	
TENDING		
CHEMICAL CLEANING/AERIAL	2,464	
CHEMICAL CLEANING/GROUND	0	
OTHER TENDING	0	
TOTAL TENDING	2,464	
SITE PREPARATION		
MECHANICAL	3,463	
CHEMICAL	555	
TOTAL SITE PREPARATION	4,018	
MNR SILVICULTURAL PAYMENTS		$ 1,933,817
ROAD CONSTRUCTION	KILOMETRES	DOLLARS
PRIMARY	166.1	
SECONDARY	50.8	
TOTAL CONSTRUCTION	216.9	$ 6,296,854
ROAD MAINTENANCE	328.2	$ 147,556
MNR TOTAL ROAD PAYMENTS		$ 6,444,410
TOTAL PAYMENTS		$ 8,378,227

NOTE: This table represents activities carried out by the Company, and the associated costs to MNR. As part of the MNR obligation under the Agreement, forest management activities were also conducted by MNR, at additional expense.

FIGURE 1: COMPARISON OF OPERATING PLAN vs ACTUAL



2.2. THE GROUND RULES

2.2.1. KNOWLEDGE AND FAMILIARITY WITH THE GROUND RULES AND THE AGREEMENT

Based on discussions held with the Company, both in the office and field, it was apparent to the review committee that the Company staff were knowledgeable and familiar with the provisions of the ground rules and the agreement.

2.2.2. CONFORMITY OF HARVEST AND SILVICULTURAL OPERATIONS WITH THE GROUND RULES

The committee's examination of silvicultural records, its field inspections and its discussions with the designated Crown representatives (DCR) all confirmed that harvesting and silvicultural operations have been conducted in accordance with the ground rules. These ground rules provide for deviations from the silvicultural techniques laid out in Table 1 of the ground rules; new techniques were proposed by the Company in its annual plans and approved by the Ministry prior to implementation.

The ground rules permit the classification of non-treatable sites by mutual agreement. Any area may be classed as non-treatable where extremes in topography, shallowness of soil, excessive rock, poor drainage or inaccessibility make it uneconomic or impractical to treat.

Non-treatable areas either allocated for harvesting in the operating plan or depleted were to be included in the depletion section of the annual report. To date, the only areas that have been declared as non-treatable on the **TIMMINS FOREST** have been road right-of-ways, despite the fact that over 5,700 hectares (ha) have been harvested.

The review committee is concerned that non-treatable areas may have been overlooked by both parties and that a failure to classify them will result in disputed retreatment obligations.

RECOMMENDATION: That the Company and the Ministry jointly review the treatable status of lands cut over during this five year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1989-1990 annual report.

2.2.3. CONFORMITY OF INVOICING PRACTICES WITH THE GROUND RULES

The invoicing procedures of the Company were found to be in conformity with those specified in the ground rules with one exception. Any differences in hectares treated, number of trees planted or kilometres of road constructed or maintained were reconciled between the Company representative and the DCR. The exception concerns a hand-scalping project carried out in 1986-87 on which agreement was not reached between the company and MNR.

2.2.4. THE PREPARATION OF NEW GROUND RULES

The forest management agreement with the Company calls upon both parties to commence the preparation of new ground rules for the next five year term at least eight months prior to the expiry of the old ground rules, and to agree upon those new ground rules on or before the expiry date of March 31st, 1988. The preparation of the new ground rules commenced well in advance of the required date but had not been agreed upon by either party at the time of the review, June 23rd, 1988. Under paragraphs 14(2) and 33(a)(b) of the agreement, ground rules for the next term are to be agreed to before extension of the agreement for a further five year term.

RECOMMENDATION: That Company and Ministry officials take immediate action to resolve differences in the negotiations for new ground rules.[1]

2.3. HARVEST LEVELS, ALLOWABLE DEPLETION, YIELDS AND WOOD FLOW

According to paragraph 20(1) of the agreement, the Company has agreed to maintain its harvest on the **TIMMINS FOREST** at a level between 90% and 110% of the calculated allowable depletion (allowable cut) for each working group. The Company may request the Minister to authorize variations to those levels specified in the agreement.

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[1] Ground rules have subsequently been agreed to.

Paragraphs 20(3) and 20(4) of the agreement provide for either a remedy or liquidated damages in the event of an overcut or undercut, respectively, on the area under agreement. The agreement holder may avoid liquidated damages through the declaration of timber surplus to its needs in an approved management plan, however, liquidated damages do not apply in the first five year term of a forest management agreement.

The Company failed to meet its 90% harvest requirement in the conifer working groups but exceeded the harvest forecast for the hardwood working groups. Figure 2 shows a comparison of the actual cut for the five year term with the allowable depletion for all working groups combined.

Conifer yields (volume per hectare), for the five year term were found to be higher than those predicted in the 1983-1988 Operating Plan. While predicted conifer volumes were realized, the area harvested was less than predicted. In addition, an unpredicted significant harvest occurred in the hardwood working group, when markets developed for poplar and birch.

The prediction of conifer yields for the 1988-1993 operating period for the Timber Management Plan (TMP) are similar to actual yields obtained in the 1983-1988 period.

The current Company system for measuring harvested wood makes it difficult to predict volumes and yields to the accuracy required to meet FMA obligations.

RECOMMENDATION: That the Company improve its harvest predictions to ensure compliance with FMA minimum-maximum harvest requirements.

2.4. NSR OBLIGATIONS

Under provisions of the agreement, the Company has an obligation to reforest NSR lands, at the rate of 5% of class 2 and 3 NSR lands annually. This amounts to a total of 2,068 hectares for the five year term under review and 8,273 hectares for the entire 20 year period of the agreement.

The Company has treated 2,446 hectares of NSR land thereby exceeding their obligations for the five year term under review. In addition, a further 1,597 ha of NSR land regenerated naturally for a total treatment of 4,043 ha. Figure 3 shows the comparison of the NSR obligation and area treated.

The naturally regenerated lands are not normally credited, but in this case, they were part of the NSR surveyed lands and failure to credit these hectares now would result in the Company not having sufficient NSR land to treat economically to meet its 20 year obligations.

RECOMMENDATION: That the Minister recognize the naturally regenerated 1,597 hectares as part of the Company's NSR obligation, and the Company be credited with 4,043 ha. of NSR lands treated.

2.5. ROAD CONSTRUCTION

Paragraph 31 of the agreement provides for the Minister to pay, subject to a maximum amount per kilometre, for the construction or reconstruction of forest access roads on the agreement area. To be eligible for payment, roads must be detailed in an approved annual plan and constructed according to the standards specified in Schedule "E" of the agreement.

Prior to the FMA, 169 kilometres of road existed on the **TIMMINS FOREST** but provided limited access to the southern and north-central areas. Construction of primary roads was needed in these areas to allow access to overmature 130+ year old stands. During the first five years of the agreement 166 km (119% of planned) primary road and 51 km of secondary roads (47% of planned) were constructed or reconstructed.

Primary road construction was increased at the expense of secondary roads mainly because of changes in species utilization (i.e. beginning of poplar sales to the Grant Waferboard Company of Englehart and termination of jack pine use by the Thorold mill) and wood flow direction (i.e. movement of wood to the Ostrum saw and chip mill). Another factor was the introduction of a prime-site harvest and regeneration strategy.

FIGURE 2: COMPARISON OF ALLOWABLE DEPLETION AND HARVEST

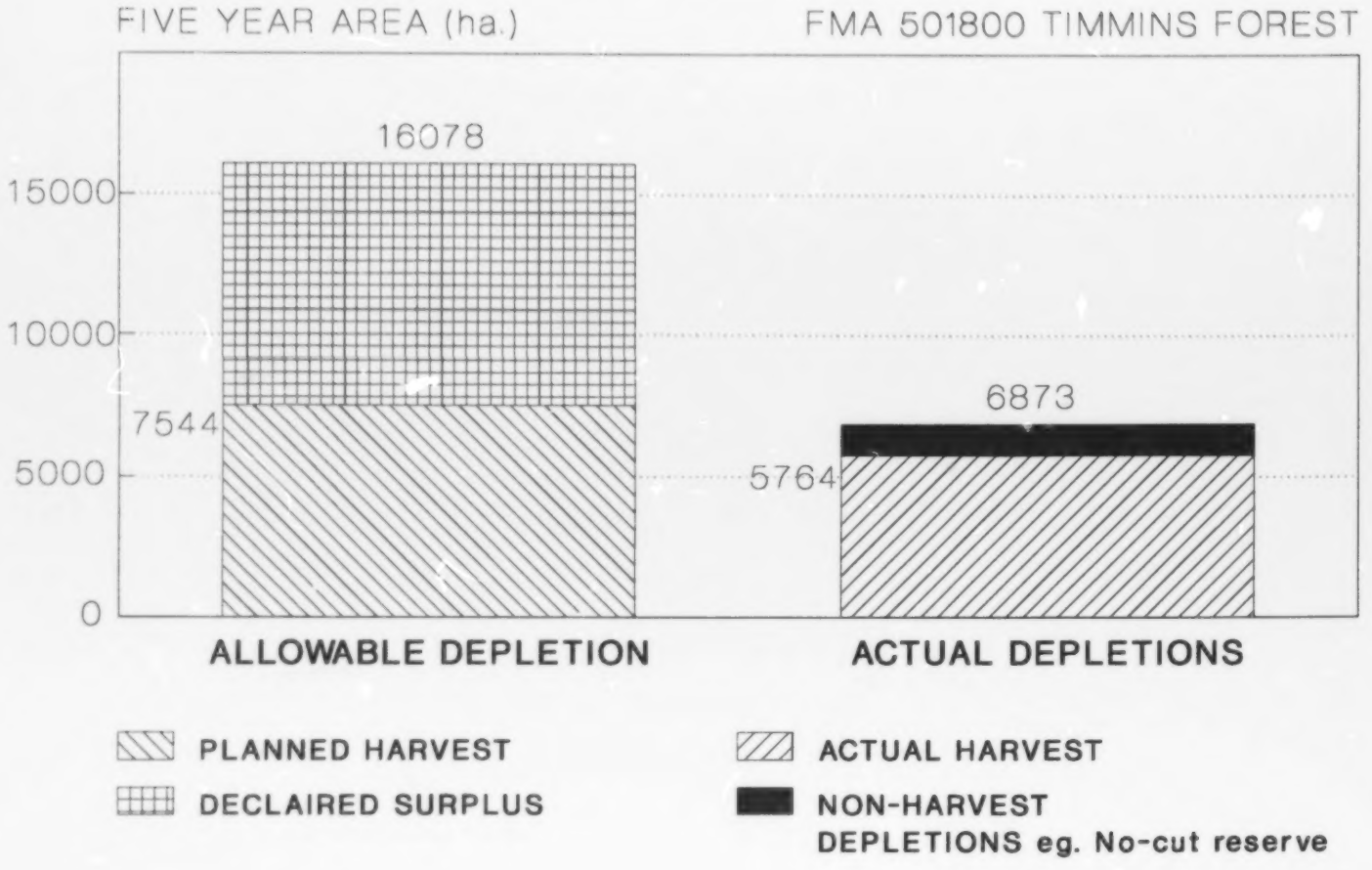
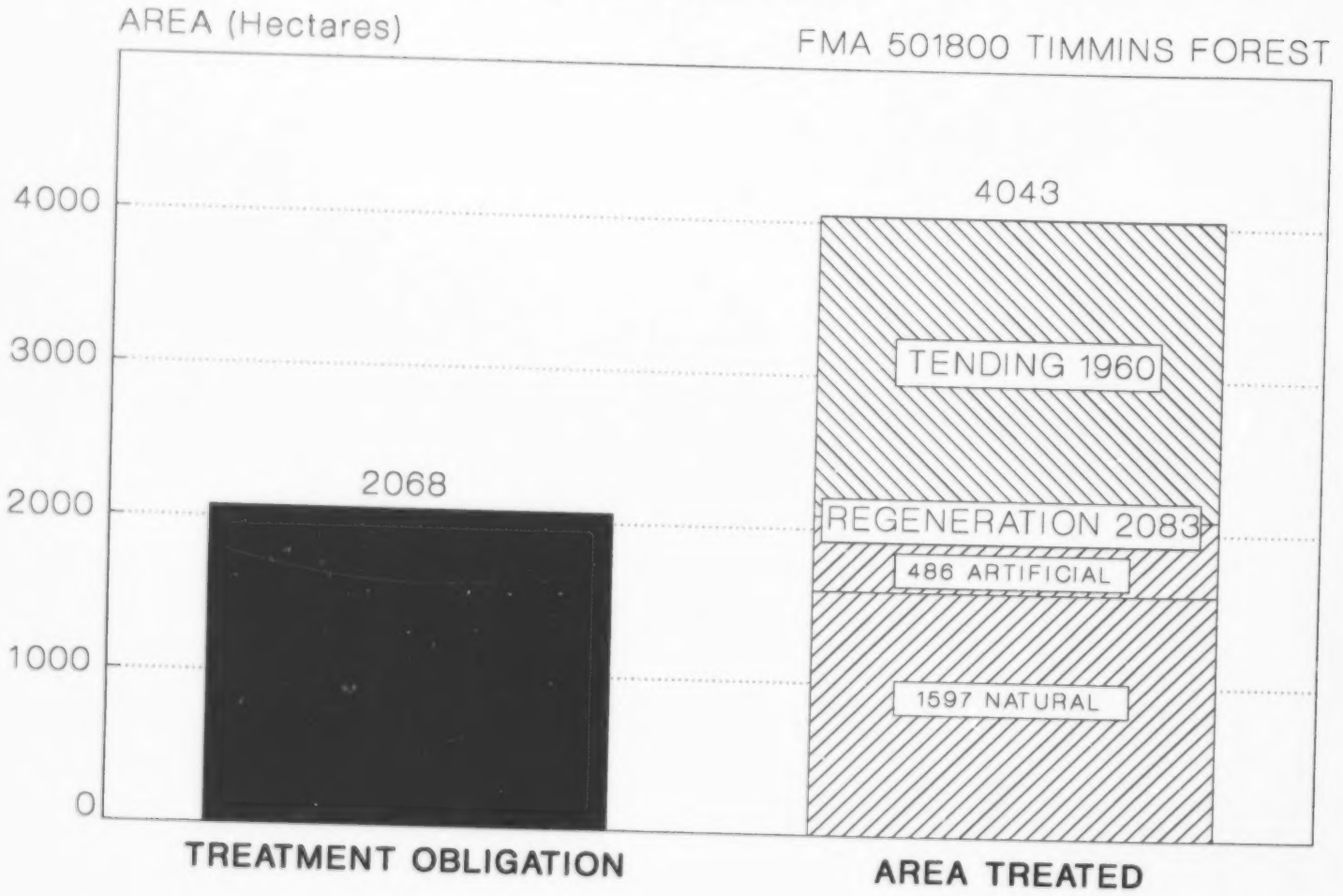


FIGURE 3: COMPARISON OF NSR TREATMENT OBLIGATION AND NSR TREATMENT, 1983-88



Road maintenance was reduced because fewer roads were built than planned, and because available funds were diverted to building the more expensive primary roads. While road funding by MNR was reduced, the Company continued to maintain roads required for harvesting and deliveries to an acceptable standard at their own expense.

In this FMA, roads are constructed by Company contractors under Company supervision and inspected jointly by a Company representative and an MNR field technician for FMA invoices. The Company builds roads to a standard that is generally higher than those required by the agreement. No roads were found to be substandard for the period.

Three sections of road were measured on Company mylar maps, compared to invoices and all were found to be accurate.

2.6. COMPANY RECORDS

Silvicultural records are maintained on mylar maps with details concerning the area and its treatment (including aerial photographs, soil type, topography, disturbance, site preparation, planting stock, planting and stock handling, seeding, competition, previous treatment and post treatment) contained in associated binders. Information about any treatment area is identified by a six digit project number (assigned at first Company activity on the area) that accommodates subdivision of areas and indicates treatments. Areas of one tending invoice and one site preparation invoice were reconciled successfully with mylar maps by using an electronic graphics calculator. The silvicultural records were carefully maintained and shown to be accurate. Depletion records were also shown to be carefully maintained and accurate.

It was noted that the Company has pursued, on their own initiative, a number of record keeping and information gathering developments. In particular, the company is initiating the use of colour infrared and colour aerial photography in their regeneration assessment program. In addition, the Company has developed a computer program for monitoring on-going planting projects on a daily basis. This system allows company managers to pinpoint and quickly correct problems with planting quality. The Company is commended for these and other initiatives.

2.7. ANNUAL REPORTS

Paragraph 38 of the agreement requires that the agreement holder prepare an annual report in accordance with the Forest Management Manual and submit them to the Ministry by appropriate dates in respect of the operations conducted on the agreement area in the year preceded.

These reports were submitted but no documentation was available for the first three years in either Company or Ministry records to substantiate submission dates. Company employees and the DCR agree that they cannot recall these reports being late. Reports for 1986 and 1987 were submitted on time. Company personnel reconciled maps and tables with MNR records before reports were written.

The accuracy of the annual reports was checked by comparing primary and secondary road length totals from invoices for 1983-1984 and 1987-1988 with those reported on the annual reports. Invoices and annual report road lengths were found to be identical.

Apart from the recording of submission dates, a commendably good job of annual reporting has been maintained.

RECOMMENDATION: That both the Company and the Ministry take steps to ensure documentation of submission dates for annual reports so that performance of the agreement holder can be evaluated.

2.8. INTEGRATION WITH OTHER FOREST USERS

Section 9 of the ground rules, entitled Modified Management Areas[2], details how areas which are to be managed to meet objectives other than or in addition to wood fibre production were identified during the preparation of the five year operating plan for the period. It was the responsibility of the Ministry to identify these areas and develop prescriptions. The Company was to implement the Ministry's prescriptions.

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[2] Modified Management Areas (MMAs) have since been replaced by the "Area of Concern" planning process.

The **TIMMINS FOREST** is used by many people besides the FMA agreement holder. Private cottages are widespread with major developments at Scott Lake and Marceau Lake. In one cottage area examined during the field trip, an MMA larger than required was left around the cottages and the cut pattern was designed with a saw tooth edge leaving a much more attractive forest scene than would have resulted from straight boundaries. This cut design constituted an exemplary case of multiple resource use for which the Company is commended. In spite of Company efforts though, an area of conflict remains to be resolved at Marceau Lake where cottage owners are objecting to proposed cuts and road locations.

Mining is another major use of the area. The Company has been careful to avoid damage to claim posts and similar requirements of mining activity. However, the Company has not always been treated with equal respect. They are not informed ahead of time about staking in new areas; therefore, they have constant concern about people being in the area during such silvicultural activities as aerial spraying and prescribed burning. On one occasion, a road was bulldozed through an area that had been prepared, planted and tended, destroying a considerable amount of Company and Ministry investment.

RECOMMENDATION: That the Ministry of Natural Resources review existing policies and procedures dealing with Mining-Timber conflicts in light of the concerns raised by this forest products company and initiate meetings with involved parties to define and resolve identified problems.

Many hunters and fishermen use the area, so protection of wildlife and fisheries values is important. Inspection of cutovers showed the FMA areas to be generally acceptable in size for providing good moose habitat and also, in many cases, suitable in shape. A few moose corridors helped break up larger clear cuts.

No-cut or deferred cut timber reserves have been established to protect the valuable water resources, including some cold water lakes and streams. Blowdown of trees remaining in these areas has been a concern in some instances.

Water crossings were well handled with culverts well placed and river banks stabilized. The Company's attitude and actions toward other users have been effective and are to be commended.

3. MAINTENANCE OF PRODUCTIVITY

Table 2 shows the maximum allowable depletion which was calculated for the **TIMMINS FOREST** at the beginning of the five year term under review. Harvesting and other forest depletions were well within the obligations of the agreement for all working groups.

The regenerated area (5,721 ha) very nearly equalled that harvested (5,764 ha). Sixty-Five percent (3,734 ha) received a regeneration treatment while the remaining 35% (1,987 ha) regenerated naturally. Regeneration on old cutover NSR land equalled 2083 ha. Regeneration on recent cutover was 3638 ha (63%). The percentage of recent cutover regeneration is expected to increase in future years, as during this period the Company made an effort to concentrate on prime-site NSR lands.

A total of only 131 ha of NSR land was declared free-to-grow but many Company and Ministry treated areas will become eligible in the next five year term.

To further address long-term productivity, the Company has entered into a number of cooperative tree improvement projects with the Ministry of Natural Resources and other companies in the area. Seed orchards, designed to produce superior tree seed for future planting stock linked to a prime-site regeneration strategy, have been established.

The review committee was impressed with the organization and silvicultural practices of the Company and commend the Company for the prompt action taken in regenerating the harvested area.

Table 2 **TIMMINS FOREST FMA 501800**

Comparison of the 1983-1988 Maximum Allowable Depletion, Total Depletion, Harvest and Regeneration Activities and the 1988-1993 Maximum Allowable Depletion. (Ministry Phase-out Operation Included in Regeneration Total)

Working Group/or Forest Unit	1983-88 Maximum Allowable Depletion	Total Depletion	Harvest Cut	Regeneration Total	1988-93 Maximum Allowable Depletion
Spruce X,1,2 (1)	3,633	2,122	1,919		3,391
Spruce 3	304	43	43		296
Balsam Fir	4,968	2,510	1,744		4,885
Jack Pine	1,845	968	907	N/A	1,429
Poplar X,1,2	2,682	912	836		1,723
Poplar 3	892	86	83		399
White Birch 3	1,754	232	232		1,187
Total	16,078	6,873	5,764	5,721(2)	13,310

(1) X, 1, 2, 3 refers to site class - a measure of site productivity with X being the most productive and 3 the least.

(2) Ministry phase-out operation included in regeneration total.

4. COMPANY CONCERNS

The Company was provided an opportunity to express any concerns that it might have with regard to FMA 501800 or with regard to the Ministry's adminstration of the agreement. Senior management of the Quebec and Ontario Paper Company though generally satisfied with the workings of the FMA, expressed concerns with:

- the continuing reduction of the level of FMA funding for roads and the late notification of approval
- the constraint of the silvicultural programs on Crown Management Units (CMU) and the resulting future pressure expected on FMA's as the CMU wood fibre base diminishes.
- the minimum standard of black spruce container stock. The minimum standard should be increased. This may result in the elimination of the small diameter 408 paper pot as the present standard is unacceptable.
- the cap on nursery stock production. It is considered to be preventing competition and entry of new good quality growers.
- the continuing high percentage of reserves in Modified Management Areas without a good forest management reason for their existence, especially in remote areas. Public input, while necessary for good multiple use planning, often takes precedence over correct forest management.
- the frequent changing of Designated Crown Representatives which causes many unnecessary problems.
- the possible allocation of perceived surplus timber for 20 years by MNR to other companies.

5. CONCLUSIONS AND RECOMMENDATIONS

The review committee was satisfied that the obligations of the Company under the agreement have been satisfactorily performed by the Company during the five year term under review, but notes that the Company and the Ministry have not agreed to new ground rules[3] for the second five year term, the area of the hand scalping project and hand seeding rates. The committee was impressed with the organization and intensity of silvicultural effort by the Company and the commitment to the success of regenerating the **TIMMINS FOREST**.

RECOMMENDATION NO. 1: That the Minister extend the remaining period of FMA 501800 by a further term of five consecutive years to March 31st, 2008, pending agreement of new ground rules by the Company and the Ministry.

RECOMMENDATION NO. 2: That the Company and the Ministry jointly review the treatable status of lands cut over during this five year term for which Table 1 of the ground rules specifies treatment but which have received no treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1989-1990 annual report.

RECOMMENDATION NO. 3: That Company and Ministry officials take immediate action to resolve differences in the negotiations for new ground rules[4].

RECOMMENDATION NO. 4: That the Company improve its harvest predictions to ensure compliance with FMA minimum-maximum harvest requirements.

RECOMMENDATION NO. 5: That the Minister recognize the naturally regenerated 1,597 hectares as part of the Company's NSR obligation and the Company be credited with 4,043 ha. of NSR lands treated.

RECOMMENDATION NO. 6: That both Company and the Ministry take steps to ensure documentation of submission dates for annual reports so that performance of the agreement holder can be better evaluated.

RECOMMENDATION NO. 7: That the Ministry of Natural Resources review existing policies and procedures dealing with Mining-Timber conflicts in light of concerns raised by the Forest Products Company and initiate meetings with involved parties to define and resolve identified problems.

[3] Ground rules have subsequently been agreed to.
[4] Ground rules have subsequently been agreed to.